THE SYSTEMATIC TRAINING OF THE BODY

SCHAIBLE

Bushey, Herts.

To
Mr. Hubert Herkomer
with the warmest thanks and
kindest regards.
London. Aug 5. 1878. Earl Beaconsfield

AN ESSAY

ON

THE SYSTEMATIC TRAINING OF THE BODY.

Ballantyne Press
BALLANTYNE AND HANSON, EDINBURGH
CHANDOS STREET, LONDON

Friedrich Ludwig Jahn.

Born Aug. 11 1778.

For the Centenary Festival.

Hubert Herkomer fecit.

AN ESSAY

ON

THE SYSTEMATIC TRAINING OF THE BODY.

BY

CHARLES HENRY SCHAIBLE, M.D., PH.D., F.C.P.

PROFESSOR IN THE ROYAL MILITARY ACADEMY, WOOLWICH;
EXAMINER IN THE UNIVERSITY OF LONDON;
MEMBER OF COUNCIL IN THE COLLEGE OF PRECEPTORS;
ETC.

A Memorial Essay, published on the occasion of the First Centenary Festival of

FRIEDRICH LUDWIG JAHN.

WITH AN ETCHING BY HUBERT HERKOMER.

LONDON:
TRÜBNER & CO., LUDGATE HILL.
1878.

"Wherever you have a population generally weakly, stunted, scrofulous, you will find in them a corresponding type of brain, which cannot be trusted to do good work."—*Canon Kingsley's Address*, Birmingham and Midland Institute, October 9, 1872.

"It is not a mind, not a body, that we have to educate; it is a man, of whom we are not to make two beings."—*Montaigne.*

"All those who have reflected on the manner of life of the ancients, attribute to gymnastic exercises that symmetrical vigour of body and soul which distinguishes them the most sensibly from the moderns. The terms in which Montaigne supports this thesis show that he was strongly convinced of its truth; he repeats his arguments incessantly, in a thousand ways. . . . . The wise Locke, the good Rollin, the sage Fleury, the pedant Le Crouzas, so different from each other in everything else, are unanimous in this one opinion—that it is important to train thoroughly the bodies of the young."—*J. J. Rousseau*, "Emile."

"As long as man here below has a body, as long as his earthly existence involves corporeal life, a life which, if it be without strength and endurance, without skill and aptitude, will fade away into an empty shadow, so long the art of gymnastics ought to occupy a principal place in the education of mankind."—*Gutsmuths.*

"It is the intent of gymnastics to restore to our education that completeness which has been lost; to add bodily training to one-sided mental culture; and to balance over-refinement by manliness regained."—*Jahn.*

"The body is the armour, the cuirass of the soul. Let it first be hardened and tempered to steel."—*J. P. Richter.*

TO

THE MEMORY OF

FRIEDRICH LUDWIG JAHN,

THE GREAT PROMOTER OF GYMNASTICS,

Presented,

ON THE 100TH ANNIVERSARY OF HIS BIRTHDAY,

TO THE

GERMAN GYMNASTIC SOCIETY IN LONDON,

BY A LAUREATE IN THE

NATIONAL GYMNASTIC FESTIVAL

AT HEILBRONN, 1846.

CONTENTS.

PART II.

ON PHYSICAL EDUCATION: ITS NEGLECT, ITS BENEFITS, AND THE MEANS FAVOURABLE TO ITS PROMOTION.

INTRODUCTORY REMARKS.

The object of this little volume is the advancement of physical education in schools. The book is therefore addressed chiefly to teachers.

The first part of the Essay is intended to show the important position held by physical education among ancient nations, particularly among the Greeks; and to point out that the rise and decay of their general culture was intimately connected with the cultivation or the neglect of corporeal training. This historical sketch is, however, only an introduction to the second part of the Essay, which treats of physical education from a physiological point of view; and, its design being chiefly that of substantiating and strengthening the opinions expressed in this latter portion, I have therefore not thought it necessary to give either great extent or completeness of illustration to my historical details.

The second part of the work was read as a lecture, followed by discussion, at a meeting of the College of Preceptors, in March, 1873, and appeared in the April number of the *Educational Times* of the same year. Its special aim was to direct the attention of

teachers to the subject of which it treated; and, unpretending as it was, yet it had the good result (partly aided, indeed, by a favourable review in the *Bradford Observer*, 1873) of persuading the Governing Body and the Head Master of the new Bradford Grammar School to build, at the cost of 4000*l.*, a gymnasium in connexion with the school, and to make physical education an essential part of the instruction given. This success, in one of the most enlightened of the manufacturing towns of Yorkshire, together with the approval of the eminent Principal of one of the largest and best schools in England, has encouraged me to republish my original lecture, prefaced by the historical sketch, in a form more accessible to wider circles of readers.

The range of the subject is so extensive that it is not possible, in so short a space, to do justice to it. But to have treated it on a larger scale might probably have affected the practical usefulness of the book.

The subject of physical education may be treated of from various points of view—hygienic, pedagogical, and technical. In this Essay I have dwelt chiefly upon the hygienic branch of the subject. My chief purpose is, to prove :—

1st. That there is urgent necessity for well-regulated exercises in order to counteract the increasing enervation of modern society, and the dangers which our present habits of life engender.

2nd. That by means of systematic exercises alone can the great majority of boys and *girls* in the middle

and lower classes be trained in bodily and, consequently, mental vigour, and—what is less generally acknowledged—in habits of obedience and discipline. How great is the value of systematic exercises I have had ample opportunity of observing in many institutions of this country, and especially, during more than sixteen years, in the Royal Military Academy, Woolwich. Notwithstanding the hard studies of the cadets, in preparation for five strict competitive examinations during the course of two years and a half, there is no institution in which the physique, the general health, the mental and bodily vigour, and strict obedience to discipline, are displayed to such perfection.

In no country of the world are bodily feats so highly valued as in England, and in no country is there such a vigorous race of young men in the higher strata of society. Even the physical education of children has, since Locke's time, been here in advance of that which is found in other countries. Yet there is, even in this country, ample room for improvement. In many schools, indeed, exercises and sport are carried on to excess. But the young people in by far the greater number of schools, particularly those of the middle and lower classes, are left without any physical training whatever.

A short time ago, the Society for Promoting Christian Knowledge published an admirable little manual "On Personal Care of Health," by the late lamented Dr. Parkes. As the opinions of this writer, expressed in a short but excellent chapter on "Exercise," are almost entirely in accordance with those advanced in my

Lecture above alluded to, I use the passage in which they are contained, by way of introduction to the second part of the present work; feeling that the conclusions of a writer of such high authority must add largely to the weight and influence of my own.

The manual of Dr. Parkes was passing through the press when we were called upon to mourn the death of its eminent author. His little manual may therefore be looked upon as his last bequest—a legacy to be held sacred by his fellow-countrymen.

I must here express my warmest thanks to Mr. Hubert Herkomer, for the admirable likeness of Jahn, etched by the artist, which adds so much to the value and interest of my little work.

C. H. Schaible.

BIOGRAPHICAL SKETCH

OF

FRIEDRICH LUDWIG JAHN.

Friedrich Ludwig Jahn, the son of a Protestant pastor, born August 11, 1778, at Lanz, near Wittenberg, was, in his time, one of the most popular men in Germany. No other man ever exercised such an influence over the German youths in colleges and universities, or was so ardently worshipped by youthful disciples.

During the eventful years from 1796 to 1800, he studied divinity in the University of Halle. Even at this early date, from the age of eighteen, he appeared as a reformer of German student life. He energetically opposed the existing associations, called "Landsmannschaften," the offspring of the ancient students' societies of the Middle Ages, with their time-honoured abuses of idleness, drinking, and duelling; and by his opposition he exposed himself to great danger from the ill-will of these societies. But his principles did not yield. However, for the sake of safety, he lived for some time in a cave, in the vicinity of Giebichenstein, from which abode he used to go forth to attend the lectures at the University. After completing his terms at Halle, he studied, as is customary with German

students, in various other universities; among them, at Göttingen. There he laid aside the study of theology, and devoted his attention to the German language and literature, and published various works on the latter subject.

In the year 1800, at the age of twenty-two, he came forward as a political writer, by the publication of his work "On the Promotion of Patriotism in the German Empire." At the commencement of his attempt to reform the social life of German university students, he had founded the "Burschenschaft," in opposition to the old societies. These latter, however, were protected by the Governments of the time, which preferred, as it would seem, that the students should devote their leisure to a wild life of carousing and duelling; while the associations advocated by Jahn, which aimed both at intellectual culture and national liberty, were before long put under the ban. As the German students' unions had all special colours of their own, Jahn chose for his Burschenschaft the colours, afterwards so famous, of "black, red, and gold," which became, and up to the year 1848 were considered, the emblem of German unity and liberty, and which have not even yet been superseded, in the hearts of the German people, by the new colours of the present empire—black, white, and red.

During the period of Jahn's university life evil times were threatening Germany, divided as the nation then was into numerous and virtually independent States, mostly ruled by princes devoid of German feeling for nationality. The French armies were devastating the

country. The old empire, already in decay, fell into ruins under the stroke of Napoleon. The French Emperor advanced against the Prussian army, and Jahn hastened to join its ranks; but he was too late to do more than share its retreat. The battle of Jena (14th October, 1806) had already decided the fate of Prussia and of Germany. The Fatherland lay bleeding at the feet of Napoleon.

But Jahn, like his friend Moritz Arndt, and thousands more among his countrymen, would not yield to despair. He laboured as a teacher in influential colleges, and was indefatigable as an author. In 1810 he published his work on "German Nationality" (Deutsches Volksthum); and it was in the same year that he first put in practice the plan of drilling large companies of boys in gymnastic exercises. In 1811 he opened, in Berlin, on the "Hasenhaide," the gymnasium which afterwards became so celebrated, and so important in its results; being, indeed, the Alma Mater of all the gymnasia subsequently established in Germany, which again in their turn gave rise to numerous others elsewhere. Jahn was, moreover, the originator of the well-known meetings or gatherings of the different societies, at variously chosen places, for the purpose of competition in their art; and the German youths, by their marches to join these gatherings, as well as by their training in the gymnasia, were soon fitted to meet the earnest conflict of real war which was before long to call forth their energies.

When, in 1813, Germany rose against Napoleon, Jahn hastened to Breslau and joined the renowned

corps, known as "Lützow's Jäger," as commander of a battalion. In 1814 he was appointed member of the general commission entrusted with the equipment and national enrolment of all Germany. In 1815 he and his corps took part in the entry of the allied armies into Paris, where the celebrated statesman, Hardenberg, consulted him with regard to the future organisation of Germany.

When the independence of Germany had been secured, Jahn devoted his special attention to public lectures, and to the subject of Physical Education. In 1816 appeared his famous work, "Deutsche Turnkunst" (German Gymnastics).

But in no long time the German princes, forgetting the extraordinary efforts made by the nation to re-seat its rulers on their respective thrones, disregarded the promises made in the hour of necessity to bestow free government and individual liberty on their subjects. A political reaction, followed by repressive measures, set in; and Jahn himself, in spite of his sacrifices and priceless services, was not spared. He was arrested as a demagogue and sentenced to two years' captivity in a fortress; and though this unjust sentence, pronounced against one of the best sons of Germany, was cancelled by the courage of a superior tribunal, yet his Government kept him in durance from 1819 to 1828, banished him to Freiburg on the river Unstruth, prohibiting him from teaching or living in any town where there was a university or college; and it was not till 1840 that he was fully set at liberty. During these years of disgrace —disgrace for the rulers, not for him—he published

various German works. A great work on the "Thirty Years' War," which he had prepared, was unfortunately destroyed by fire in 1838.

In consequence of his great sacrifices in the cause of national independence, he found himself in straitened circumstances. A national subscription procured him a home and its comforts. His house, however, soon became the asylum, the hospitium, of German patriots; and his pecuniary difficulties began again. But they were again met by the generosity of his countrymen.

The spirit of arbitrary repression once more gave way before the united effort of all enlightened Germans. Those who administered the Governments found themselves compelled to grant free Constitutions; a Parliamentary system commenced; the Press became free; and thus at length, in 1848, the longing of so many Germans for a national unity seemed in a fair way of being accomplished. The first German Parliament met at Frankfurt; and Jahn was elected a member of it by the newly-united people. And now the dreams of his youth seemed to be realised. But it was still only a dream—delightful, but brief. The rulers again proved to be too strong for the aspirations of the people. The Parliament was dissolved, the newly-awakened liberty was again crushed, men were sent by thousands to prison or to exile; a second period of reaction, more severe than the former one, set in; and Jahn—"Vater Jahn," as the Germans fondly called him—retired, for the last time and with a broken heart, from public life. His death took place on the 15th October, 1852.

Like many a leader on the rugged path towards liberty, the martyr's crown was his only recompense. He was not permitted to see the dawning of those better times for which he had helped to prepare the way. But he will live for ever in the memory and the affections of his countrymen. And as the advocate of a true Physical Education, he deserves well not only of his own country, but of mankind at large; while his character is in all respects specially worthy of the sympathy and esteem of Englishmen—themselves the representatives of that union of well-directed enthusiasm and manly rectitude which was so conspicuous in Friedrich Ludwig Jahn.

PART I.

HISTORICAL SKETCH OF GYMNASTICS.

PART I.

HISTORICAL SKETCH OF GYMNASTICS.

I.

ORIENTAL ANTIQUITY AND GREECE.

Among all nations, whether of a high or of a low degree of civilisation, some kind of exercises for training the body have been practised; and the object of them has originally been the same, even though the methods may have differed. By means of them, some nations rose to a high degree of culture and influence; others, by a perverted use of them, or a mistaken method, were led into errors which involved serious consequences. History shows that among communities where physical education has been either neglected or misused, a general enervation has prevailed, causing even the ruin of the nation itself.

Indications of a use of bodily exercises are to be found among the ancient inhabitants of India. But among them the principal aim of such training was, to give suppleness and flexibility to the body, merely for the sake of amusement and show. Their exercises were neither systematic nor general, nor had they any high educational purpose.

It was otherwise among the Persians, whose physical

training had a national character. According to Strabo, the Persian youth assembled in the morning at a given signal, in an appointed place, for the exercises of drilling and hunting. At the head of a squad, formed of fifty youths, stood the son of a prince or satrap, as the leader in races, which were performed within a space of from thirty to forty stadia. At the same time they exerted their lungs and voices, they inured themselves to fatigue, and accustomed themselves to a coarse food, and to nocturnal watching in the open field. In the evenings, for further discipline, they were ordered to plant trees, to dig up roots, and to manufacture arms and nets. Young boys went through their exercises at home. The most skilful of the youths received from the king plates or cups of gold, as a reward and encouragement.

Besides these exercises and labours, Athenæus mentions their skill in riding and dancing, observing that "the Persian esteemed dancing as a part of the physical education of youth, believing it to be an excellent means of strengthening the body." But the Persian dance was probably some kind of war-dance, not bearing the slightest resemblance to our modern drawing-room movements.

It would appear, then, that the aim of bodily training, among the old Persians, was that of strengthening and invigorating the physical frame, and promoting a simple, hardy, and healthy mode of life. But that they did not neglect the culture and development of the moral faculty, we may gather from Xenophon (Anab. I. 9, 3), who says, "All the children of the highest families are

educated at court, in order to gain, in a society where nothing disgraceful is either heard or seen, a habit of the most complete self-control; and to learn, even as boys, both to rule and to be ruled."

Among the Jews, but little attention was given to exercises for the body. The mind of this nation was directed towards the inner man. Even the principal exercise they had, dancing—in which, however, girls alone were instructed—was practised only for the purpose of elevating and enlivening their religious festivals.

It has been asserted that bodily exercises, like music, were not practised among the Egyptians. But the fact that they were not universally the custom, is no proof that they were entirely unknown to that people. Diodorus indeed (I. 53) relates the legend that on the birth of Sesostris, his father gave orders that all boys born in Egypt on the same day as his son should be brought together, accompanied by the persons to whose care they were committed, and undergo henceforth a like course of instruction with that of the royal youth (as he was convinced that those who had been educated in common would become the best friends and companions in arms); and that these boys were enjoined to go through a stated course of discipline, none being allowed even to take food, if he had not previously run over a fixed number of stadia. Thus trained, Sesostris and his companions, having arrived at manhood in full strength of body and vigour of mind, were able to accomplish with ease the greatest exploits.

Plato also bears evidence to the use of bodily

exercises among the Egyptians. He says, "Ciphering is learnt there first, in proportion to the children's powers of comprehension, by means of games and amusements, a certain number of boys receiving apples or wreaths of flowers in a certain numerical ratio, and being required to find out what proportion is necessary, and in accordance with the game; further, by the arrangement of warlike games, in which they change their places; and, lastly, by exchanging in turn cups of gold, silver, iron, or other material, which they hand to one another. Thus, the pupils are instructed in peaceful occupations, in carrying on war, and in managing the affairs of the house; and, in general, educated to be useful members of the State." We see from this quotation, that bodily training was not absolutely unknown in Egypt. But it did not exist under any such conditions, or for any such purposes, as those which belonged to it in Greece. The inhabitants of Chemmis alone, of all the Egyptians, celebrated athletic games, and distributed prizes to the victors. Even these games, however, were in no respect based, as were the games of Greece, on the conviction that mind and body ought to make equal progress in the advance towards development. They were merely festivals in honour of Perseus. (Herodotus, II. 91).

II.

THE GREEKS.

In Greece athletic exercises were cultivated by the whole nation with a passionate enthusiasm. Ancient Hellas considered them as of the utmost national importance, celebrated them in songs, and saw in them the basis of its physical and intellectual, its public and private welfare. They were an essential part of the education of youth, and had the greatest influence on the national character.

The principle that common and equal education of youth has the most beneficial consequences for society, prevailed as far back as in the heroic age of the Greeks: such an education was looked upon as the best foundation of intimate and lasting friendship. We are told of the common education of Achilles and Patroclus in the castle of Peleus, of that of Orestes and Pylades, and others. Active life being at this period almost the only education, we may conclude that more care was bestowed upon the development of the body than of the mind; for the entire bent of the heroic age was towards achievements in arms.

While the festive games of the Egyptians, and indeed of the Greeks themselves in the earlier times, were used for the purpose of doing honour to the dead, they were transformed by the later Greeks into

ceremonials of the most joyous character. The circle of bodily exercises was gradually widened; they became more regular and systematic, whereas they were, in their earlier stage, based on practical experience only, for theory was then imperfect and obscure. The name of "Gymnastics," a designation which shows that the art had become a recognised system, was unknown in the time of Homer.

Originally, the object of the exercises was preparation for military warfare. They comprised the use of the bow, the throwing of the sling, and some of the movements of a well-known group of exercises known at a later period by the name of "Pentathlon;" these were wrestling, running, leaping, the throwing of the discus, and hurling the lance or spear. Hunting, although a favourite amusement, was no regular part of the physical training of youth. In later times, in place of the combat with the fist, which had come to be considered too brutal, the Spartans introduced leaping, an exercise hitherto unused. The handling of the bow, too, lost in later times its former renown, being looked upon as unmanly and treacherous. Even in the early period of the Trojan war, but few archers are mentioned besides Teucer. Homer enumerates the following athletic exercises: the combat with the fist, wrestling, hurling the lance, and the foot-race. Besides skill in these games, a duly qualified hero was bound to possess skill in the use of arms and in the management of horses and chariots on the battle-field, no less than at the festive games. Dancing is also placed by Homer in the

list of bodily exercises. Meriones, a Cretan, especially excelled in this art; and the poet bestows upon him the eulogistic epithet of "The Dancer."

The Phæacians did not exercise their male youth in the combat with the fist, nor in wrestling, but preferred the foot-race, dancing, singing, and navigation. Of exercises for women, only the game of ball, and latterly the so-called chain-dance, were known.

With the successive formation of States in Greece gymnastics were gradually developed and improved, according to the principles upon which those States were founded. The chief, or leaders, in the unions of Greek States, were Athens and Sparta. All the others followed these, the most powerful and the most civilised. Those which followed the Spartan State-system, or were subjected to it, were called Doric States; those which held to Athens were called Ionian States. The organisation of these cycles of States respectively rested upon an essentially different basis.

In the Doric States the polity was based upon the principle of a common education of the whole nation, and a special training for young men. Education, indeed, was the nerve of all the life of the community. The individual was to live solely for the good of the commonwealth. Physical education was predominant; and such intellectual culture as existed concerned itself, not with the human, but only with the Spartan mind. Private education was unknown, all laws and regulations being instituted for society *in corpore*. By means of a common, and chiefly physical education, a State was to

be formed and upheld, united by the bonds of temperance, harmony, and love, that should at once be free, powerful, and invincible.

The great statesman Lycurgus acted on the principle that all the members of his republic ought to be physically strong and healthy. Hence that well-known education of Spartan youth, with its endurance of heat, cold, hunger, and thirst, and that simple and frugal life. But the old as well as the young, the learned as well as the unlearned, practised various kinds of exercises. Lycurgus, and at a later period Cleomenes, paid the most zealous attention to strict discipline in the education of the children, and regulated the life of youths by the most minute rules, in order that they might grow up healthy in body and mind. Lycurgus considered it contrary to reason that a greater care should be paid to the improvement of the breed of horses and dogs than to the training of men.

The whole time of the education of the boy was divided into certain periods. His body was hardened in all possible ways by gymnastic exercises, games, hard work of many kinds, and the endurance of hunger and thirst; and he was supposed to be rendered insensible to pain by undergoing, at the festival of Diana, a course of flagellation. Marching, riding, dancing, wrestling, foot-races, were some of the exercises; and in the three last the young women also took an active part. A fresh, manly, ruddy complexion, and a slender growth, were physical characteristics of boys in the time of Lycurgus; and he who had the most black-and-blue marks and scars on his body passed as the most deserving.

All the exercises of the Spartans aimed only at forming men at once free, powerful, and invincible, who should be able to defend their country to the death. There were no other walls than the iron bodies of the Spartan citizens. From childhood they rendered themselves familiar with combats and fatigues. The magistrates dispersed the boys over the country, bare-footed and almost without clothes, exposed to cold and hunger. The Lacedæmonian women tried their strength in wrestling with the youths; they were trained to give to the State a vigorous race. Their fortitude of character was such as to make the mother forget the loss of her own son, when victory was gained.

In the earlier times the Lacedæmonians, in the opinion of Aristotle, carried exercises to excess, and "rendered their boys, by hardening them, actually wild and rough, as if this were a part of bravery." But in later times the object of gymnastics was, besides their practical usefulness, the attainment of a noble and beautiful carriage of the body, free from all mere artistic and artificial grace.

For all the free sons of free citizens gymnastics were made compulsory.

In Crete gymnastics were cultivated still more zealously than in Sparta, especially the foot-race, for which reason the Gymnasia were frequently called *δρόμοι*. In these the youths also practised throwing the lance, the Pyrrhic war-dance, and various martial games, which were performed on certain days, when the youths of one band contended against those of another, in regular order of battle, not only with fists,

but also with wooden and iron weapons, accompanied by the music of the lyre or flute.

While in Sparta and the other Doric States physical education was the basis of all instruction, and higher intellectual life and individual liberty were but imperfectly developed, the tendency of the Ionian States was to blend body and mind into one whole, while yet giving the predominance to the latter. The Ionian method became in later times the model for the education of all Greece. The most perfect expression of that internal harmony which characterised Greek life was the well-bred Attic citizen, who displayed, like a successful work of plastic art, an indwelling equilibrium, a consummate unity, by the medium of a beautiful form and a countenance full of soul; exhibiting, by external symmetry and rhythm, as it were the mirror of realised beauty.

In the earlier times of Greece bodily exercises were practised in an arbitrary and capricious manner. History names Pythagoras as the man who, preceded by Solon, first regulated them, rendered them systematic, and embodied them as a recognised art in Greek life. According to this philosopher, gymnastics were destined not only to give an external education to the Greek, but they were also to influence the inmost soul; they were to co-operate with and sustain intellectual and moral education. Thus also Plato conceived of gymnastics. He says that the arts of the gymnasts were always to be judged according to their principal aim, and their influence on the higher culture; that the gymnasts ought to be thoroughly acquainted with the

nature of man and led by truly ethical motives. Pythagoras, the first preceptor of the Greek peoples, based his principle upon education of the intellect, of the heart, of the will, and of the body; that is, upon intellectual, moral, and corporeal perfection. He was energetically seconded in his efforts by those who were at the helm of the State.

An important influence on the development of gymnastics resulted from the legislation of Dracon and Solon, which enjoined on youth, before all things, temperance and modesty, and prescribed what free boys and young men were to learn, and in what manner they were to be educated. The wise Solon said, as Lucian represents, to the Scythian Anacharsis :—

"It is not enough for us Hellenes, each of us to live merely in that condition of body in which Nature has created him; but we enjoin every man to acquire a skill in gymnastics, in order that the happy production of Nature may be rendered better, and that bad dispositions may be ameliorated. Our example, in this respect, is the practice of the husbandmen, who protect and fence their plants, as long as they are small and tender, so that they may not be injured even by the breezes; but who afterwards, when the shoot has grown strong, cut away the exuberant vegetation, and, abanoning the tree to the swaying and shaking of storms, render it thereby stronger and more fertile." With clear and simple words Solon explains, as Lucian further narrates, the object of Greek gymnastics. "In contrast with the white bodies of the barbarians, with

their sluggish corpulence or pallid leanness, trembling, vacillating, and wasting away, the bodies of the Greeks are ruddy, bronzed by the sun, manly in appearance, and displaying the fulness of animal life, warmth, and vigour; they enjoy the best health, and are neither on the one hand misshapen or attenuated, nor on the other of a burdensome corpulence, but are symmetrically formed; for all that would be useless and exuberant has been carried off by perspiration, while all that produces strength and tensity they retain, free of unhealthy admixture, and keep it in vigour. As husbandmen do, in winnowing their wheat, so our gymnasts use to do with their body; the chaff and husks they blow away, the pure corn they carefully separate and lay it up in store. From this practice health and the utmost endurance under fatigue necessarily result. A man thus constituted will not perspire so readily, and rarely is he seen failing in strength. Just as, if one should fling fire into the unfanned wheat—to bring forward again the parable of the winnower—the chaff and straw would be rapidly consumed by the flames, but the wheat itself would waste gradually, not in one blaze of wide flame, but slowly burning out through a length of time; so, in the same manner, fatigue and sickness will not easily overpower a well-trained body, for within itself it is too thoroughly prepared, and externally too strongly fortified, to suffer essential mischief from outward influences. Should such a frame be about to relax under fatigue, then that fortifying vital ardour which is prepared and stored within it for use at need streams forth in its fulness, and renews the system, fitting it for

almost invincible effort. Even much previous exertion and hard labour causes, not exhaustion, but increase, of strength, which is thereby stirred up in a greater degree." "Thou wouldst appear, my Anacharsis, to estimate strength as though it were something of a fluid nature, and to fear therefore lest it should gradually be lost by force of exertion, and in the end leave the body altogether empty and dry. But it is not so; nay, the more strength is drawn forth by exertion the more richly does it flow on within; even as the hydra, in the well-known fable, in place of one head cut off always threw out two new ones; whereas if the bodily force remain unexercised and untested, and have not a sufficiency of material in store, then any unwonted exertion will be pernicious to it and consume it; even so as with the fire and with the lamp; by strong blowing thou canst first kindle the fire, and canst likewise, by blowing, make it more powerful, whilst thou canst by a breath extinguish the little light of the lamp, because it has not sufficient element of life to be able to withstand." "I should like to set together before thee one of those white creatures, brought up in the shade, and any one of our gymnasts, and I am certain that even at first sight, and without testing each of them by deeds, thou wouldst prefer, of the two, to be the well-knit and firm-set one, instead of being, like the other, effeminate, flaccid, and white for lack of the flow of the blood to the interior parts of the body."

In contrast with Sparta, where the individual found his liberty only in the common liberty, in Athens individual liberty was the aim of the State in all things;

and, consequently, private instruction and education were the rule, not the exception. The mind had, therefore, a larger field of action, and intellectual culture could be better cared for. The higher the cultivation of the mind rose, the more that of the body sank, and would probably have almost entirely disappeared, had not the exquisite sense of beauty which existed among the Greeks secured for it a longer term of life; for the principle continued to be predominant, that a beautiful soul can dwell only in a beautiful body.

In the very plays of the children there was a difference between Sparta and Athens. While the Spartan sports aimed only at war and hardship, the Athenians had a wider field and greater freedom. Children were to be allowed, as Aristotle says, to play till five years old, in order to accustom themselves early to activity and to detest indolence in their later years: the plays, however, were to be confined rather to such things as are carried on seriously in maturity. In Athens there was a great number of plays for amusement and exercise. They were considered as a preparation for life, and a means of awakening activity and earnestness, and were held in high esteem by Greek philosophers. The principal plays, besides those (already mentioned) of the Spartans, and various games at ball, such as tennis and others, were:—

Epostracismos.—This consisted in the skill of so flinging a small flat stone obliquely over the water as that it should skim the surface, and then counting the bounds it made. In this grave description an English

boy will recognise the delightful amusement of "duck and drake."

Ostracinda was a game played with flat stones, white on one side and black on the other. When the throw brought the black side uppermost, the thrower was bound to flee while the other player pursued him. Perhaps this may be the original form of "pitch and toss."

Myinda and Pselaphinda.—Blind-man's buff, and hide and seek.

Omilla.—Walnuts or other fruit were placed in a circle. Every player tried, according to certain rules unknown to us, to catch the stake of the player next to him.

Schœnophilinda was a game in which boys sat round a rope—something like "hunt the slipper."

Dielkystinda or *Helkystinda.*—These were games in which children, ranged in two rows, seized one another's hands, and tried each to pull the other over to their own side; or pulled at opposite ends of a rope; as in "tug of war," "French and English."

Pentalithos.—A girls' game, which consisted in throwing up five pebbles, and catching them again on the back of the hand.

Askoliasmos was a game performed by youths during a festival dedicated to Bacchus. It consisted in jumping and dancing upon a wine-skin filled with wine or oil. It was considered a skilful feat to keep upright without slipping down.

In Athens gymnastics were used as a means of education of all free Greeks. It has not been ascertained

whether the whole youth, boys and young men, were instructed simultaneously in all the exercises. They were, no doubt, drilled according to the various degrees of age, strength, and capability of bearing fatigue—not, however, for the sake of public exhibition, but for the purpose of developing and strengthening the physical frame. It was only at a later period that boys took part in the national games and were crowned as victors. In the 37th Olympiad the first prizes for boys were proposed, to be awarded for foot-race and wrestling. In the 38th Olympiad, Eutelidos obtained the olive-branch of victory in the Pentathlon. In the 41st Olympiad, Philetas of Sybaris gained the victory in the combat with the fist; and the Ætolian Phædimos of Troas in the Pankration, in the 140th Olympiad, when boys were admitted to this grade of gymnastics.

THE GYMNASIA.

The exercises were performed in the Gymnasia, or in places selected for the purpose, and were superintended and conducted by appointed masters.

With a view of promoting bodily exercises, the Greeks erected splendid buildings, with halls, saloons, baths, and shady walks. These buildings were called Gymnasia, and were gradually developed into noble works of architectural art, where the people assembled in large numbers, not only to admire the robust gymnasts, but alsoto listen to the philosophers, orators, and minstrels, who resorted thither. Every town was provided with one or more buildings destined for gymnastic practice, adorned with statues, paintings, and altars for offerings

and sacrifices, and consecrated to one of the gods or to some one of the illustrious dead, who had well merited the thanks of his fatherland. We find in Mercurialis the most interesting details respecting the construction of gymnasia. But not only had every town a building of this kind—the rich citizens had, besides, gymnasia within the interior of their residences. The public gymnasia were, like the Agora, the place of meeting for men. There were to be found, as mentioned above, orators and philosophers, who loitered in the colonnades; the athletes, practising either in the palæstra (place of combat) or xystos (the covered portico); the warriors, inuring their frames to fatigue; youths, receiving instruction; the bathers; and numerous spectators, walking under the trees, or taking their seats within the stadium, and enjoying the spectacle of wrestling. Here the Greek youths were drilled, under the instruction and direction of public officers, masters of gymnastics, medical men and others, in all that might assist them to attain strength and beauty. Men, of all ages, were present whilst they performed their exercises, and animated and incited them to bold deeds.

The chief officers of a gymnasium were the following:—

The Gymnasiarches was an officer of State who superintended the gymnastic exercises.

The nature of the office of the Xystarches is not quite clear. The word appears to be derived from xystos, a covered place for exercises, open on all sides, and used in winter, where the Xystarches probably presided. Equally difficult to explain is the office of

the Kosmetes, of the Anti-kosmetes, and Hypokosmetes, who were attached to the former. The office of Kosmetes must have been very high, for to one occupant of it the gymnasiarchs even erected a statue. Perhaps it denoted the chief director of a gymnasium, charged with general order and arrangement, or he had possibly the chief command of the Ephebs.

As officers under the authority of the Gymnasiarches, we find the Pædotribes and the Gymnastes. The distinction between these two is not quite clear. The Gymnastes appears, however, to have been instructor in gymnastic exercises and trainer of the athletes; the office of the Pædotribes was probably the external physical development, deportment, discipline, diet, &c. He conducted the boys to the public games and exercises. He had assistants, called Hypopædotribes.

The Aleiptes, again, was distinct from the Gymnastes and Pædotribes. His duties were concerned with the anointing with oil of those who practised, with the dietetical arrangement of food and drink. But he was also sometimes charged with instruction in gymnastics.

The Sphœristes was the director of the various games at ball, some of which were performed amidst dancing and singing.

The Agonethetai were regulators, umpires, and superintendents of the combats.

The Sophronistes was charged with keeping the youths within the bounds of modesty and virtue. There were ten of these officers.

Besides the above-mentioned officers, there were in a gymnasium a number of others, whose duty was to attend to the friction and unction of those who practised, and also several sellers of victuals of various kinds.

The Athenians had three great establishments—the Academy, the Lyceum, and the Cynosarch. But none of these were on a par with those Gymnasia where the national games of Greece—the Olympic, Pythian, Isthmian, and Nemæan games—were celebrated.

VARIOUS PURPOSES OF GREEK GYMNASTICS.

Greek physicians and philosophers distinguished three kinds of gymnastics—medical, athletic, and military. Many of the exercises were common to all three classes; some belonged to one of them only. In Athens—not, be it observed, in Sparta—gymnastics were subdivided into two classes, viz., educational and agonistic—the last-named of which were employed to train athletes and soldiers. There were, in addition, other exercises which did not belong to gymnastics properly so-called—such as riding, chariot-driving, games of ball, performed specially during the festivals of Hephaistos and Prometheus—a peculiar race during the Panathenaia—swimming, and some others.

Educational and Medical Gymnastics.—Gymnastics, as has been said, were considered as a necessary element in the education of all free Greeks. Their special character, as already remarked, varied according to the organisation and basis of the various States and different periods of Greek history. There were, however, five

exercises, named collectively the Pentathlon, which were common to all the Greek States, and were the principal performance at the national games. The Pentathlon consisted of the foot-race, leaping, wrestling, throwing the discus, hurling the lance. These, as forming a principal feature in all the classes of gymnastics, shall be briefly described here.

The Foot-race.—The Hellenic nations esteemed the race before all other gymnastic exercises; it was usually the opening contest in the public games. Even women occasionally took part in it. Every gymnasium had a course or race-ground, separated from the rest of the building, and surrounded with ranges of seats in the form of an amphitheatre for the spectators. The course was covered with sand, which was intended to render running much more difficult. He who ran once through its extent—a distance of 600 feet—was called "runner of the stadium;" he who ran through it twice, was called "runner of the double stadium." Races that were meant to test endurance, were of a much longer duration and more often repeated, so much so that "the long run" counted twenty-four times round the stadium. Often the race was performed by runners completely armed. Of the perseverance and swiftness of the Greek in running we read the most astonishing accounts. One boy is said to have caught hares in full speed; another to have defeated a horse in a racing match; and one is reported to have traversed the distance from Platæa to Delphi, more than twenty hours' walk, and returned before sunset, in one day.

Running was valued by the Greeks as strengthening the feet, legs, and thighs, fortifying health, giving endurance, agility, and beauty, and securing a means of safety in many dangers.

Leaping.—This exercise was highly valued, especially from a military point of view. In warfare it was of service not only for the purpose of surmounting obstacles to an advance, but also for adding vigour to a charge. Long leap was practised most frequently and with most success; high jump more rarely; and the downward leap but seldom. To attain, by the same act of leaping, at once distance and height, was an exploit very highly esteemed. In each gymnasium, for the practice of these movements, trenches were cut, and sharp-pointed poles, cords for leaping over, and vaulting-hoops for leaping through, provided. A favourite pastime for country-people was that of jumping upon a full wine-skin, previously made slippery with oil. The jumper was required to remain standing upon the wine-skin. There were also some exercises in leaping, in which feet, shoulders, and head were weighted with heavy objects.

The leaping practised by the Hellene produced the most beneficial effects upon his organism. By exerting to the utmost the muscular power of the lower parts of his body, he gained the power of springing with force, grace, and steady balance, to an astonishing distance and height. His power of vision was quickened through the necessity of calculating with exactness the point of his leap, the intervening space, the relative width and height; his courage and resolution were strengthened

by the effort of urging himself forward in the face of obstacles.

Wrestling existed among the Greeks in different forms—*e.g.*, bending an antagonist's arm in the joint of the elbow, opening the hand, moving an opponent from his place, throwing and lifting, &c. Various kinds of mutual attack, of seizing and throwing, rendered this an exercise of varied utility. Let us picture to ourselves two men wrestling. To begin with, we may note that the previous shaking of hands, as a mark that both antagonists would fight one another without detriment to their friendship, placed wrestling in a position worthy of respect. Composed, with a noble bearing, without any passionate wrangling or scuffling (every brutal show of power being strictly prohibited), each strains his powers as much as possible, in the hope of conquering his opponent. A display of strength, whereby no limb, no muscle, no sinew remains unstrained, is presented to the eye in wrestling as in no other exercise. The very attitude, the mere pose of both wrestlers as they stand opposite to each other, is beautiful, earnest, and of great effect on the body. Waiting the expected attack, both are moving, now to the left, then to the right, now forwards, then backwards—an excellent exercise to keep the eye watchful; for its withdrawal one moment from the opponent would be followed by an attack favourable to the latter. The eye must endeavour to elude the adversary; it must discern the moment when he is to be seized. As the combatants grasp one another, what a development

of strength then appears! What control over it, that it overpass not the due limit, lest some mutual injury occur! Greek wrestling is the most complete and most harmonious of all gymnastic exercises.

For *Throwing the Discus* the Greeks employed an iron wheel, resembling a small shield, without a handle or straps to seize it, heavy and quite smooth. The thrower of the discus first rubbed his hand with dust in order to be better able to keep his hold, then stepped upon a little mound thrown up for the purpose, and, after having well calculated the swing and sharply fixed his eye upon the line of projection, sent the discus whizzing through the air to a certain distance and at a certain height. Exulting shouts followed its flight. Solon said, according to Lucian, of the thrower of the discus:—"This discus they throw to a height and distance at the same time; and consider it a glory to send it to the greatest possible distance, and to outdo one another. This exercise strengthens the shoulders, and increases the elasticity of the feet and legs." The exercise had, by reason of the bending and balancing of the body, a very excellent effect on the tendons of the arms, chest, and back; and on the muscles of the feet.

In *Hurling the Lance or Spear* it was necessary to aim at a mark. A manly, free, and noble bearing, and a sharp, quick, sure eye, were the result of this exercise. The position alone of the thrower is beneficial to the whole body. He stands in a striding posture, the body rests, bent somewhat backwards, upon the leg placed behind. The eye is directed to the point aimed

at, and at the signal of the will the elasticity of the muscles of the arm and chest is set free, and the lance flies towards the mark, despatched by the backwards-drawn arm.

These five movements, as above mentioned, constituted the Pentathlon (contest-fivefold), the principal performance at the national games. Aristotle maintains that those pentathlonists, who carried off the prizes, were among the most beautiful of men.

Medical gymnastics, the object of which was to preserve health by maintaining mind and body in a just equilibrium, were greatly recommended by ancient authors. Herodicus, among others, laid down the first rules of them. They comprise less violent exercises, such as dancing, some games at ball, marching, racing, leaping, swimming, hunting, the various exercises of the voice, navigation, equitation, chariot-driving. Some military and athletic exercises, used moderately, formed a part of medical gymnastics, more nearly allied to those classed as educational.

When about to go through his exercises the Hellene took off his clothes, rubbed his body with oil, and covered it with dust and sand. But it has not been ascertained whether gymnastic exercises were invariably practised in a state of nudity, although the root of the term (γυμνός) seems to imply this. Gymnastics under this condition appear to have been less frequent with the Athenians. The Cretans first began the practice, which came into use afterwards among the Spartans. By a law of the 32nd Olympiad, it was decreed that the foot-race should be performed naked. The rubbing of

the body with oil was meant to strengthen the skin and to secure protection against possible injuries, and the covering with sand served to lessen the chance of slipping in wrestling, and was believed to increase elasticity when the combatants seized one another, and tried to hold fast each other's slippery body. Sand was also said to check perspiration, to render the strength more lasting, and to keep off the chilling effect of the air.

After the young Greek had exercised his body in the heat of the sun and exerted his strength to the utmost, he took a bath as refreshment, and greatly enjoyed the water after a hot contest. The cooling and cleansing of the oily, dusty, skin, proves what care the Greeks bestowed upon their persons. Bathing was so much associated with gymnastics that, in order that it might be enjoyed frequently, bathing establishments were connected with gymnasia, and splendid edifices built for this purpose. When the weather was favourable, baths were taken in the rivers and the sea, where the Greek youth practised swimming and diving. In these arts, likewise, Greek gymnastics had reached the highest degree of skill. It is said that a Greek, desiring to escape from the Persians to join his own countrymen, passed over a distance of four leagues on and under the water.

Athletic Gymnastics.—The training of the athletes differed from that used for the ordinary national exercises. The former consisted principally in wrestling, in which each of the combatants endeavoured to throw his adversary on the floor of the arena; pugilism, or combat with the fist; the pankration, which combined in

one, wrestling and pugilism; the combat with the cestus, in which the blows with the fist were rendered more terrible by enormous gauntlets, made of leather straps and iron plates; the use of weights of different form (halteres); games of ball (sphœristica), racing, leaping, &c. We read with an emotion of terror the description of the combats with the cestus in Homer and Virgil. The latter shows us Entellus preparing himself for the combat:—

> In medium geminos immani pondere cestus
> Projecit . . . . .
> Obstupuere animi: tantorum ingentia septem
> Terga böum plumbo insuto ferroque rigebant.
> . . . . . et pectore vastos
> Dant sonitus; duro crepitant sub vulnere malæ.

Dares is vanquished, and his friends carry him off:—

> Genua ægra trahentem
> Jactantemque utroque caput, crassumque cruorem
> Ore rejectantem, mixtosque in sanguine dentes.

In the encounter of Pollux and Amyctus, described by Theocritus, Pollux strikes his adversary between the eyebrows with such violence that he strips off the skin of the forehead and lays open the bone. Although it was forbidden, under penalty of losing the prize, to kill an adversary, yet this did sometimes occur. Pausanias gives a striking example of the violent passion of certain athletes. Arrhichion breaks the toe of an adversary by whom he is about to be suffocated; the latter, overcome by the pain, owns himself vanquished; but the victor expires an instant afterwards.

Many things related of the Greek athletes savour of

the marvellous. Milo of Crotona, carrying a bull in the circus, Polydamas arresting with one hand a chariot drawn by four horses, resemble the heroes of the romance period. Every schoolboy knows how they perished in their hot-brained enterprises. Their dietary is not less wonderful than their strength. Milo of Crotona is said to have consumed daily eighteen pounds of meat, eighteen pounds of bread, and fifteen pints of wine. They passed more than half their life in a sleep rendered heavy by a laborious digestion.

Even before modern criticism had attacked these heroes of the gymnasium and circus, the ancient authors themselves had not spared them. "Plato enim athletas somnolentos, segnes, ignaros, desides, vertiginosos, tandemque morbosos nuncupavit." Euripides had said, in his time—

κακῶν γὰρ ὄντων μυρίων καθ' Ἑλλάδα
Οὐδὲν κάκιόν ἐστιν ἀθλητῶν γένους.

Galen gives them on an average five years of existence in their professional career. The contemporary authors are full of bitter satires on the deformities which the "pugilatus" impressed upon the bruised faces of the athletes. But except this condemnation of athletic exercises in their abuse, we find that ancient authors are unanimous in praising, especially in their medical branch, the benefits to be gained from gymnastics.

MILITARY GYMNASTICS.

To the range of exercises which were specially destined to form and train the soldier, and which were preceded by, or practised together with, exercises of

the classes named and described above, belonged the "Pyrrhichē," or pyrrhic dance—a war-dance, performed under the weight of arms—the discus, arcus, jaculatio, funda, the mock combats or sham-fights called monomachia, sciamachia, races of chariots, and some others.

NATIONAL GAMES.

In Greece, gymnastics, like music, were not only, as has been already shown, an important part of the highest education, but they also constituted an essential feature in the popular life. The importance that belonged to them was seen at its height during the national festivals, which took place at regularly recurring intervals, and formed the principal bond in the united brotherhood of the Hellenic tribes. These festivals were held in honour of the gods; and thus gymnastics became associated with the highest national and religious solemnities. The whole Greek nation met together within and around the sacred gymnasium for the celebration of the festival. The gathering-places highest in dignity and importance were those of Olympia, of Delphi, of the Corinthian Isthmus, and of Nemæa. The games at Olympia were the most celebrated. They were held every fourth year, in the midst of an immense concourse of people. Homer and Virgil tell us that solemn festivals were likewise celebrated on the occasion of triumphs and remarkable events, or to honour the ashes of illustrious warriors. These national festivals were opened with sacrifices and other religious services, and thus received a religious character; afterwards, various feats

of gymnastics, chiefly (as already remarked) the Pentathlon, were performed in presence of a crowd gathered from all parts of Greece. The competition for prizes was the central interest of the occasion. Combatants and spectators alike felt as if animated by one soul, united in one common fraternity. But in the course of the festival, not only were gymnastic exercises and games performed—the masterpieces of the artists were there exhibited and criticised; there the poets, philosophers, and historians brought forward the creations of their genius. We have here, on a large scale, an evidence which we find everywhere in every Greek State—nay, even in each individual Greek—that the Hellenic culture aimed after an harmoniously blended development of mind and body. For, in the national games, contests of the mind as well as of the body were witnessed, for the gaining of that laurel wreath, to win which was the highest distinction that a Greek could obtain: and there also appeared on the arena distinguished scholars, artists, great musicians, struggling to win, not only by the works of their genius, but by the strength of their muscles in wrestlings and other combats, the crown which would immortalise the one no less than the other.

No wonder is it, then, that the youth of Greece displayed so great a zeal for bodily dexterity. The most brilliant future, the most glorious marks of honour, awaited them, if they carried off the victor's crown in one of the combats. The crown awarded at Olympia was of olive; at Delphi, of laurel; on the Isthmus, of

pine-branch; at Nemæa, of parsley. In the time of Homer the reward of such victories consisted in arms, and similar trophies. Each time, as the name and birthplace of the victor was proclaimed, the crowd shouted with exultation towards the spot where he stood, carried him around on their shoulders, adorned him with a wreath, covered him with flowers and leaves, and loaded him with precious gifts. The towns courted him, that he might deign to become one of their citizens. The greatest poets sang in immortal songs of triumph his glory, his descent, his virtue, and his beauty. Artists immortalised him in marble and brass. Banquets and processions were arranged in his honour. The exultant crowd of his countrymen went forth to meet him, and even pulled down the walls of their city in proof that the town wherein such citizens dwelt, need fear nothing from her enemies. The State bestowed upon him the most glorious privileges, and honoured him not only with rich gifts and important functions, but also with a statue. For parents it was a maddening joy to see one of their children crowned; we are told that Chilon, and Diagoras of Rhodes, died of such a rapture in the midst of the applause of the crowd.

But we find the Greek youth not only competing for an olive or a laurel branch on the festive ground, we meet him again on the battle-field, struggling for the freedom and the honour of his fatherland. We find him in the hot combat at Thermopylæ, dying bravely for his country, with the heroic Leonidas.

History designates the Hellenes as the happy god-

beloved people of freedom, beauty, and art. A firm step, a noble bearing, a vigorous frame, a polished, embrowned skin, a modest, but manly expression, duly proportioned education—all these were the fruits of gymnastics. The noble and perfect form of the Hellene was the outward expression of his inward serenity and symmetry of soul.

DECAY OF GREEK GYMNASTICS.

But, unfortunately for Greece, this happy time did not last. A time of degeneracy succeeded; and this noble institution for moulding into perfection the human being perished gradually with the downfall of Greek liberty and independence. Education, in all senses, suffered a great change subsequently to the time of Socrates. The emancipation of body and mind were no longer the chief object. In physical training the degeneracy began by the gradual disappearance of the civilising element in the noble art of gymnastics, which gave way before vanity and ambition, increasingly fostered as these passions were by mere showy performances. Those gymnastics which in former days had rendered the Hellene a perfect being—physically, morally, and æsthetically—and had given rise, during more than two generations, to immortal works, perished ignominiously, and only a spiritless, empty art remained. Greediness after reward, and the cravings of ambition, were now become the incentives. Frequently now the athletæ fought with vindictive rage, contrary to all ancient rules, such as those given in the foregoing description of their contests.

In such education, too, as was now bestowed on the mind, all the care was spent upon oratorical art and deceptive display of words. Egotism and insolence showed themselves in speech and deed; all instruction became formal, based upon vain illusion.

The decline of gymnastics had a special effect on the military system, which, in the old days, had demanded the drilling and hardening of the frame. Whereas formerly the citizen had been used to take up his arms with enthusiasm, now the mercenary system prevailed, and effeminacy succeeded to hardihood. That gymnastics were a necessary condition of the maintenance of Greek freedom and Greek life, is sufficiently shown by the fate of Greece in her gradual downfall, and, in contrast, by the more lasting and more solid welfare and freedom of those Greek towns where gymnastic exercises were still cultivated, as in Tarentum and Crotona.

From the downfall of Greek independence in the time of Alexander the Great to the rise of the Greek Empire, gymnastics consisted only of empty feats and artistic exhibitions. A vaunting dexterity was the result; and the moral tendency of gymnastics gave way before it. Leaping from one horse to another, artificial and extravagant dances and feats, were the exercises of these days. Indeed, such dexterities, in the time of Alexander the Great, were so highly valued that the Athenians presented Aristonicus with the freedom of their city, and erected a statue in his honour, on account of his extraordinary skill in the game of ball!

III.

ROMANS—MIDDLE AGES—MODERN TIMES.

THE ROMANS.

In Rome, during the early ages of the Republic, bodily exercises were very general. Young and old appeared in the arena to practise, and statesmen and scholars employed their leisure hours in strengthening their muscles. But with the downfall of the Republic gymnastics gradually degenerated, and at a later period dexterity in them was no longer an honour, but a disgrace, to a free citizen, and they were performed only on public occasions by slaves and low-class persons as a means of gaining money.

It would appear that Greek gymnastics and gymnasia, together with many other Greek institutions, were introduced into Italy subsequent to the subjection of Greece to Roman rule, since we find that, in the time of the Emperors, they were much practised by the youth of patrician families. But the gymnastics of Greece, already in their own land undergoing a process of decay, presented, when transplanted into the land of the Romans, an essentially altered character. In the heroic ages, at the time when arts and sciences flourished most, and during the gradual decadence of Greece, the chief characteristic of her gymnastics, as we have

shown above, was more or less their tendency to develop at one and the same time both moral and physical strength and health. But the Romans used gymnastics originally only as a means of gratifying their lust of power, and, at a later period, as a matter of public display. Gymnastics were used for the first purpose as a method of military training. They were never, among the Romans, connected with the inner development of man; and even Greek gymnastics, at this epoch, could afford no beneficial effect in that respect, because, before being transplanted to the Roman soil, they had already lost their moral tendency; and against one-sided and exaggerated intellectual cultivation no counterbalance was demanded. Rome was a purely warlike State, whose citizens, even from childhood, were bound to train their bodies for military service. Roman gymnastics, therefore, being in no sense based upon that idea and consciousness of humanity, which was the predominant principle in the age of Solon and Pythagoras, gradually assumed the character of mere brutal manifestation of strength. Their extravagances bordered on monstrosity, and reached the highest pitch in the horrible gladiatorial combats, which were undertaken for hire, which frequently ended with the death of one or both of the combatants, and which contributed to the deep moral ruin of the Roman Empire. Athletes and gladiators began the practice of travelling through the country, and performed for money before an enervated crowd.

Gymnastics, however, were practised by the nobler youth of Rome only as a preparation for war. The foot-races of patrician boys in the Circus Maximus,

riding on horseback, wrestling, throwing the discus and the lance, were for them warlike exercises. Swimming, too, was so highly valued by the Romans as being serviceable in warfare, that they used to designate an uneducated man by the expression "neque literas didicit neque natare." Dancing and singing, indeed, from a very early period, were practised as arts to enliven existence. But Scipio Africanus Æmilianus blames strongly the common dances of free boys and girls as greatly tending to corrupt their morals. He says: "The sons and daughters of families of rank are instructed in deceitful and degrading arts: they go, in the company of singers, dancers, and musicians, to the school of the actors. I could for some time scarcely believe that the patricians would give their children such an education; but, having been conducted to one of the dancing schools, I saw there more than 500 boys and girls, and among them, alas! a boy of twelve years at the utmost, executing a dance that scarcely the vilest, most abandoned slave would have performed without a blush." So deep was the fall of free education of the body among the Romans. And the reason was chiefly this,—that the body was not strengthened for its own sake and for that of the mind; not for the harmony of both, but for war and subsidiary purposes.

For military gymnastics, however, no people ever showed more enthusiasm than the Romans. Their exercises were performed in the open air on the Campus Martius, with arms twice as heavy as those carried in the real combat. At the close of the course, they plunged, covered with dust and sweat, into the Tiber.

In five hours (according to Vegetius) they accomplished twenty millia, or Italian miles, bearing sixty pounds' weight. Marius never missed a single day on the Campus Martius. Pompey is said by Sallust to have been able, at the age of fifty-eight years, to run, jump, and carry loads, as easily as the most robust soldier in his army. After any defeat, discipline was strengthened by new trials and harder labours. "Idleness was more feared than the enemy," says Montesquieu; and he adds, "it was by immense labours that the Romans maintained their position; the reason of it was, in my opinion, that their fatigues were *incessant;* whereas our soldiers pass continually from excessive work to excessive idleness." It was thus that this people subjected the world. We read with astonishment how Marius, seeing his soldiers terrified by the Cimbri, overloads them with work, makes them lay out roads, dig canals, change the course of rivers, until, exhausted and subdued by fatigue, they demand to fight as the end of their hardships. We are astonished at the marches of Cæsar and his legions in Gaul; and we look with no less wonder than admiration at the remains of those Roman camps, whose gigantic proportions were, as we know, the work but of a few days.

But, as soon as drill and labour began to be neglected, and discipline deteriorated in the army, the Roman soldier delivered himself over to the conquering stroke of the Northern warriors, whose hordes overflowed the boundaries of the Empire. Nothing is more melancholy than to follow Gibbon in his descrip-

tion of the progressive decay of this great body of men, which had now no means of frightening the enemy, beyond the bare remembrance of the legions once so formidable. These legions had been maintained by discipline and exercise ; they fell by laxity and inaction.

Into the circle of the usual exercises of the amphitheatre we see gradually intruding those gladiatorial combats of evil memory, which have left an indelible stain on the character and manners of the Roman people. They had been instituted for the purpose of rendering the citizens accustomed to the sight of bloodshed. Cicero relates that the gladiators, streaming with blood, went, as if in supplication, to ask of their masters whether they were to continue the combat, or, in other words, to fight till they were slain. Mercurialis reports that they drank of the blood of their vanquished adversaries, in order to excite themselves further, and afterwards swallowed water mixed with ashes. Under the Emperors, these performances, which were considered as festivals, increased to an incredible extent, and the people rushed with a kind of mania to attend them. There were exhibited the combats between men and the ferocious animals, brought to Rome at great expense from the remotest provinces of Africa and Asia. There were seen Christian martyrs steeping the arena with their blood. There was seen the Emperor Commodus, rushing twenty times into the circus, in the midst of the applause of a crowd drunk with excitement. The cry of the people was now for but two things, " Panem et circenses !"

It is difficult to form a due conception of the magnificence of these games. In one single day one hundred lions, dragged from the deserts of Lybia, were slaughtered. Secret reservoirs were so arranged as suddenly to inundate the circus, and cleanse it of torrents of blood. Then appeared vessels on this artificial lake, and maritime combats succeeded those of the gladiators. The great amphitheatre could contain 90,000 spectators. What a people and what a spectacle! What a greatness and what a barbarism! What a power and what a corruption!

THE ANCIENT GAULS, IBERIANS, AND GERMANS.

Many other ancient nations might be mentioned as having highly valued bodily exercises. But I must limit this sketch to those nations which were closely connected with our European civilisation and had more or less influence over it. These were, the ancient Gauls, Spaniards, and Germans, in which latter term the Teutonic inhabitants of Britain are included.

It is very remarkable that whereas in Rome and the countries of the West, gymnastics did not belong to public education, a "gymnasiarchy" existed in Massilia, (Marseilles) a Transalpine city of Gaul, where public games took place with judges of the combats, "Agonothesia." But the bodily exercises of the ancient inhabitants of Gaul were different alike from those of this ancient Greek colony, and from those of the Roman colonies. It is said that the Gauls practised a great variety of exercises; and Strabo even asserts that those among them whose corpulence in-

creased beyond the prescribed width of the girdle, were severely punished.

Among the ancient Iberians physical training occupied a high place. According to Strabo, those tribes that dwelt on the banks of the river Durius (Douro), lived quite after a Catonian fashion. They performed gymnastic contests in heavy armour on horseback, feats of wrestling, running, hurling the sling or balista, and fighting in rank and file. It is said that the epithet "Balearic" was given to the islands thus named on account of the skill of their inhabitants in throwing and managing the balista. Boys practised this exercise from their earliest youth. The object aimed at was a loaf of bread suspended in a tree, and they were not allowed anything to eat till they had hit the mark.

Of the ancient Germans it is known that they practised bodily exercises with ardour and perseverance. These consisted in feats of arms, in hunting, riding, running, leaping, throwing, and swimming. Rude and terrible in their commencement were the warlike games of this people, who, swinging their clubs and hatchets over their heads, and with a dreadful war-cry, a hundred times broke the Roman legions by the shock of their charge. From childhood they inured their bodies to every kind of exertion and hardship. They owed to their method of physical training their strength, courage, and self-confidence. Their exercises in arms varied in character according as they were a preparation for hunting or a preparation for war. The exercises of the latter class are mentioned by Tacitus. He

says, "Naked youths execute a dance which requires the performer to leap between swords and lances, planted (point upwards) in the earth; an exercise that gives skill and gains honour, but which never takes place for money, being performed only for the pleasure of the spectators." This sword-dance, in which the German youths attained a high degree of skill, was performed on festive occasions. Besides these dances among pointed weapons, the Germans had to undergo trials of courage, of combats with wild animals, hand-to-hand fighting, &c., in presence of the men, and accompanied by animating songs of the bards. After those youths who had reached the age of manhood had performed these exercises, bravely and to the satisfaction of the men, they were declared fit to bear arms, were received among the men, and admitted to their rights and privileges. Those who excelled in the above-mentioned games were highly esteemed, and were frequently nominated chiefs of the small warlike expeditions for which free and bold young Germans gathered together in order to try their courage and power. Tacitus says that the Germans lifted upwards on a shield the strongest and bravest comrade as the most worthy to march at the head of their band. The more the tribes drew together into confederation, the more zealously and extensively were bodily exercises carried on.

Even young women were bound to perform exercises suited to their constitution, in order to steel their courage and strengthen and harden themselves. More than once German women gave brilliant proofs of

courageous heroism. Who does not recall the battles of the Teutons against the Romans, especially at Aquæ Sextiæ, where the Teuton women, after their husbands, kinsfolk, and countrymen had been slain, fought with their enemies from the barricades of waggons, and, after having slain a great number, died, with their children in their arms, the heroic death of their husbands?

In a moral aspect the gymnastics of the ancient Germans were superior to those of the Romans, because they were not mere displays of strength for cruel spectacles, but were either conducive to soldierly earnestness or valuable as an elevated kind of festive amusement. The use of gymnastics for the sake of a general and harmonious human education was, however, not thought of among this primitive people.

GYMNASTICS IN THE MIDDLE AGES.

We see, from the rude gymnastics of the last-named ancient nations, how great was the empire of physical force among them. This continued to be the case during the Middle Ages; for the founders of the principal modern States of Europe—namely, of Germany and the greater part of Britain, which the Teutons peopled, and of France, Italy, and Spain, of which they were the conquerors, and within which they were for a long period the governing race—were the representatives of the ancient Germanic tribes, among whom bodily force and prowess was an object of respect and veneration.

The nature and character of the primitive Germanic races fitted them, beyond any other nation, for the adoption and practice of gymnastics, and by no people

were bodily exercises cultivated with more zeal, steadfastness, and perseverance, although not with so systematic a method as was observed among the Greeks. The feats and combats of the Germans were the origin of the chivalric games of later time. The chief traits of the former are noted in the "Germania" of Tacitus, where he describes the Germans as frank, true, fond of glory, loving honour above all things, and cherishing and adoring woman. Chivalry had at first a beneficial influence on European society, re-animated its languishing vigour, and revived at the same time intellect, arts, and sciences.

But gradually the ancient freedom vanished, and feudalism, with its pernicious influences, arose. Gymnastics gradually ceased to be a system of training common to the whole nation. They became the privilege of that order from which the nobility sprang; and, with the general and universal physical training of the entire nation, vanished also its moral strength. Another instance of the fact with which the student of history meets so frequently—namely, that as bodily exercises flourished or declined, so the freedom of a nation rose or fell. After a time there remained, as poor vestiges of those once so gigantic exercises, only some faint and crippled imitations of them which lingered on in various forms during the Middle Ages and gradually disappeared, leaving indeed here and there some traces which have lasted till present times.

The military education of the nobility during the Middle Ages, in all States Teutonic either by race or by conquest, certainly owed its origin to the games of

the ancient Germanic tribes. But such an education was the exclusive privilege of the nobility, and, thus limited, it became the basis of the system known as Chivalry. Among the lower orders, it is true, some bodily exercises, which faintly represented the ancient athletic training, continued to exist in several countries. Among the communities in which they were maintained may be mentioned the once famous schools of arms, which flourished for a long time in numerous German cities; such as Frankfurt, Augsburg, Nürnberg, Prague, and the universities; the former of which were composed of mechanics and tradesmen, and endowed with important privileges. A less beneficial usage of the Teuton was the duel, which has descended to our times, though much changed from its original character. The single combat seems to have been in its commencement an element of Teutonic law, taking place by judicial decree—an ordeal or judgment of God.

In the Middle Ages all bodily training was restricted to military gymnastics. The nobles, the future knights, learned from childhood to handle the bow, to manage the sword and lance, to spring upon a horse, to bear the weight of armour. About 900 years ago, under the German King, Henry I.,* tournaments†

---

* Henry assembled large bodies of cavalry against the inroads of the Hungarians, who repeatedly devastated Germany. This is said to have given rise to chivalry.

† Tournament is derived from the ancient Teutonic word *turnen*, which signifies to bend, govern, direct, turn. As early as 1023 it occurs in old German works. Notker uses it in his

were first instituted, which by their national importance and moral tendency, though in a different form, possessed in many respects a genuine Greek character.

Although the gymnastics of the high-born youth, considered in their influence on national and individual education, were very imperfect, since only knights were admitted to combats in the tournament, they nevertheless served, in spite of the prevailing sharp distinction of classes, to arouse the consciousness of the nation, and to ennoble intellectual and moral life. The whole people were allowed to be present at such spectacles; and they had access, besides, to the rich poetry of chivalry.

Side by side with chivalry, and influenced by its example, the class of burghers rose gradually to an ever-increasing prosperity, to a greater amount of freedom, to a noble self-reliance, to mental culture, and, finally, to a common military organisation of their class, which, assisted by martial games, rendered them capable of self-defence. The path to this result was opened to the order of burghers by chivalry, as not a few knights were in the habit of taking up their abode in the cities. Unfortunately, in many countries the great mass of the nobles spared no means to suppress and extinguish the rising power of the people, and, in consequence, bodily exercises disappeared in many

---

translation of the Psalms. In an old fable, published by Büsching, the lion is called "a bold turner," and it was in former times the epithet of a young soldier. The term has been revived in Germany in its old sense; and "turnen" now means to execute gymnastics; "turner" signifies a gymnast.

places, popular poetry died away, and popular life was arrested.

Tournaments filled the place of the combats of the gymnasium and the circus. In them, likewise, blood-shed would too often occur. But what a difference was that between the gladiator slaves and the loyal and courteous knights, the flower and crown of nobility. Kings themselves descended into the lists. No combatant was more redoubtable than Richard the Lion-hearted. The chivalrous Henry II. of France was accidentally wounded in a festive tournament by the hand of the Count of Montgomery, and died of his wound.

A few words will serve to sketch the fashion and order of those grand festivals of the Middle Ages. The knights were distinguished as first-challengers (tenants) and poursuivants. The former proposed and awaited the combat; the others came to defy them. If one of the poursuivants struck the shield of the tenant with the wood of his lance, there was a simple encounter; if with the iron, a desperate combat for life ensued. They fought in heavy armour, first on horseback and afterwards on foot. The terrible shocks, the weight of the arms, the dust, sufficed to despatch many a jousting knight, whom his squires lifted up dead, though perhaps without wounds. Others perished by the sword; and the number of victims enhanced the splendour of the festival. The knights were animated by the crowd of spectators, by the sight of kings, princes, and, above all, fair ladies of the Court, to whom they offered the homage of their triumphs: a

courtesy which makes us forget for the moment the rudeness of the manners of the time. We find in the description of more than one tournament a genuine Greek enthusiasm for bodily exercises and games.

To such a degree was physical force held to be the first quality in a warrior that the great poets of the age, Ariosto and Tasso, represent their heroes as breaking with the blows of their sword the strongest best-tempered armour; cleaving an enemy in twain down to the girdle, lifting enormous blocks of stone, and wielding levers with which they broke the gates of cities.

It may easily be imagined that such men sprang from vigorous fathers—from men like those described in the old German song of the Nibelungen. Hardy from childhood upwards, always with the lance in their grasp, the cuirass on their back, and a high sense of honour in their soul, they were of a cast of character superior to that of modern generations. It is no wonder that, notwithstanding their comparatively small number, they were able, during centuries, to keep under their yoke the entire commonalty of the lands in which they lived.

GYMNASTICS IN MODERN TIMES.

The use of fire-arms superseded all mighty suits of armour, and relaxed the muscles of steel that had moved within them. With the modern epoch the reign of strength ceases, to give place to a kind of feverish effort towards arts, sciences, and discoveries. Bodily exercises, likewise, being one of the characteristic traits of the Middle Ages, disappeared with the

passing of that epoch into the modern age. There remained only some kinds of military drill, to accustom soldiers to the trials of a campaign; and some exercises and games, which have been preserved down to our times, such as wrestling, boxing, the use of the bow, and others. With the decline of the practice of self-defence on the part of the independent citizens, bodily exercises also ceased among them. Gradually, physical training, through which nations become great—which secures to men not only bodily but mental vigour—came to be despised and ridiculed as being of brutal tendency. Into the place of a manly bearing and dress stepped a stiff attitude and walk; the toilette-table, with powder and rouge; the bobwig, ramillies, and buzzwig claimed now the time of youth as well as of old age; man, the king of creation, became a caricature of the human race, or, to speak in Darwinian phrase, retraced his steps and became again an ape, shambling along with a stooping gait, with a cadaverous complexion, crippled in body and mind, in consequence of a luxurious, enervating, and consequently degenerated life.

A succession of years passed before a voice was raised against such an education, such habits, which would in the end have led the human race towards irretrievable decay.

The world was impelled into a new phase of development by the spirit of the Reformation. With that vast movement commenced a new era in education—an education truly human, entering the lowest cottage, embracing the whole of society, without distinction of

class, comprehending mind and body—this was one of the gifts of the Reformation.

Luther preached an education, resting not only on divine, but also on natural principles. In accordance with the spirit of the new education, gymnastics, after having been buried in long oblivion, were again to appear in the service of training the young.

Luther was ardently desirous to see them revived. He expresses his enthusiasm for them in the following words:—"It was well thought and arranged by the ancients, that young people should exercise themselves, and have something creditable and useful to do. Therefore, I like these two exercises and amusements best—viz., musica and chivalrous games, or bodily exercises, as fencing, wrestling, running, leaping, and others. The former (musica) drives away the cares of the heart and melancholy thoughts, and the temptations of the Fiend; it makes men milder, gentler, more modest and sensible, fit for anything, and always cheerful. It makes them forget anger, unchastity, pride, and other vices, acting the part of a disciplinarian or task-master. The other renders the limbs free and adroit; it keeps the body in health by leaping, running, and other exercises. The greatest advantage is, however, that with such bodily exercises one does not fall into carousing, debauchery, gambling, hard drinking, and other kinds of lawlessness, as are unfortunately seen now in the towns and at the Courts. This evil comes to pass, if such honest exercises and chivalrous games are despised and neglected. Not to mention that it is truly needful in these times for us Germans

to be fit and always prepared for joining the army and for battle. For, verily, our boys will have to defend land and people, and to be warriors. They are like arrows, expected to hit the mark. The Lord gives them, and shoots them off. Our boys must be brought up earnestly and strictly. They are to learn privation at an early age, to love work, bear hardships, and shun no exertions. For they must go forth into the battle of life and into war, in which only hardship and misery are to be borne. Solomon is, on this point, a most kingly schoolmaster. He does not forbid to youth to be among the people and to be merry, as the monks used to do to their pupils. For of the latter most will become mere loggerheads and blockheads. A young man, so dammed up, is like a young tree which could otherwise bear fruit, planted in a narrow flower-pot. To young people such a tyrannical monkish constraint is quite injurious, and joy and amusement are as highly necessary for them as eating and drinking. For they remain the more in good health. The virtues with which we are to furnish our boys are, principally, fear of God, industry, patriotism, moderation, courage, and humility. With such weapons they are well fitted out for every strife, for they have 'a sound soul in a sound body.'"

It is true, that during Luther's lifetime little was done for the restoration of gymnastics. But they were at least recalled to mind. Luther's plan of a general education of man was based upon the ancient idea—of a comprehensive development of the human being, such as should render him perfect intellectually, morally,

and æsthetically. Unfortunately his lofty aims were partly lost in the armed strife that soon awoke to resound for nearly half a century throughout Germany, and laid waste that once united, strong, and flourishing country. His plans, therefore, met then, and still meet, with numerous impediments, such as imperfect comprehension of a complete education of man on the part of many educators, who cannot see the utility of a good physical training, and who pay a too exclusive attention to intellectual culture.

Besides Luther, his friend Melancthon and the Swiss reformer Zwingli, likewise advocated education on the plan followed by the ancients; and he was further supported in his view by his pupils Valentin Trotzendorf (A.D. 1531), Rector of the College of Goldberg, and Neander (A.D. 1550), Rector of the newly-established college at Ilfeld. Both were as enthusiastic for bodily exercises as their two great masters. They superintended the exercises of boys, praised the dexterous and skilful, and blamed the awkward and lazy ones.

Camerarius of Bamberg, also, in his "Rules of Life for Boys," which appeared about A.D. 1540, recommends running, leaping, wrestling, and other games.

A change in the system of education in Germany, unfavourable to the revival of gymnastics, was brought about by Johannes Sturm (A.D. 1538), the famous Rector of the Academy of Strasburg. To study Greek and Latin, and the ancients in general, was his one notion of education. The acquisition of the Greek language and the methods by which it was to be attained, were studied most thoroughly. But the prac-

tical application of the Greek mode of education was left entirely out of the question. High-spirited youth was no longer to be permitted to bestir itself in the joyous sports befitting the age. There was strict prohibition against climbing, wrestling, bathing, and swimming. Thus, for a considerable time, gymnastics were shut out from schools by a mode of education similar to that which was followed in convents.

Against Sturm's system the celebrated physician Mercurialis (1530–1606) protested. He brought back the Hellenic gymnastics to the recollection of his readers by his well-known work, *De arte gymnasticâ.* The usefulness of gymnastics was there set forth, though more from a hygienic than from an educational point of view.

But the time was still distant which was to restore to the human body its natural rights. Now and then, after long intervals, champions appeared to advocate such a restoration, but with little effect.

A century after Mercurialis, the English physician Thomas Fuller (1654–1734) entered the lists as a defender of the Greek plan of education. Like his predecessor, he also valued gymnastics less as a part of education than for the sake of their dietetical and orthopædic application. The opinion of both these writers was naturally influenced by their profession as medical men.

For the advocacy of a freer and more comprehensive education, including that of the body, very great merit is due, both to Montaigne in the sixteenth, and to Locke in the seventeenth, century.

It was, however, not till the second half of last century, that effeminate and corrupt period, that a more natural training found its way into educational institutions, which hitherto had been for the young places of intellectual and physical torture. J. J. Rousseau appeared as a strong opponent of monastic education. Stimulated by the ideas of Montaigne and Locke, he advocated, in his "Emile" (1762), that truly comprehensive ideal of instruction, which aims at the development, in harmonious proportion, of body and mind alike. He recommeuded the restoration of Greek gymnastics.

Rousseau's theories found a practical application in the philanthropic institutions of Basedow, Salzmann, Campe, Pestalozzi, and others. There gymnastics once more occupied the place due to them; and a special care was bestowed upon them by Salzmann.* The latter found an able co-operator and successor in Gutsmuths, who devoted himself with an indefatigable zeal to the revival of gymnastics. He tells us this in the following words: "In the year 1785, I entered, when still but a youth, the school of Schnepfenthal, near Gotha, and thereupon Salzmann, its head, conducted me to a place, saying, 'Here are our gymnastics; within this little space we amuse ourselves daily with five exercises, though these are still only in their rudiments.' These exercises had been first tried at Dessau, where Salzmann had previously been. He soon entrusted me with the direction of this first beginning of exercises.

* Salzmann's German work on Gymnastics appeared in an English translation, "Gymnastics for Youth," as early as 1790 and 1800.

All that I found out from ancient usages, from the historical remains of earlier and later antiquity, all that reflection and sometimes chance offered to me, was brought forward for the sake of amusing experiments. Thus the chief exercises increased, were subdivided into new forms and tasks, and were subjected to rules, often laid down with great difficulty. Thus originated, after seven years' experiments (1793), in the first edition of my 'Gymnastics,' my first attempt to call attention to a subject that had been quite forgotten, and only existed in history."

While Gutsmuths, with a brilliant success, was working in Schnepfenthal for the revival of gymnastics, a similar result was attained in Dessau, under the direction of Vieth.* The enthusiasm of this latter for the cause of bodily training may be seen in his work, "Encyclopædia of Bodily Exercises."

In France another physician, Tissot, appeared as an advocate of this practice, but at first with hardly any success, for he, like his predecessors, Mercurialis and Fuller, recommended it solely from a hygienic point of view, advocating medical gymnastics, but forgetting their educational influence. It was, on the other hand, a due attention to this latter point which had secured the success of gymnastics in Germany.

In Denmark, soon after the successful labours of Gutsmuths and Vieth became known, Nachtigall rendered these exercises so popular that, both in town

* At the beginning of this century Vieth's work was published in England by Strutt, with the title, "The Academy of Games."

and country, the young practised them vigorously. They were likewise admitted as a means of rational education into Sweden, under the direction of Ling, well known for his thorough theoretical and practical knowledge of this science. Ling was a man of great natural gifts. He developed a peculiar system of gymnastics. His chief merit consists in his having drawn attention to their efficacy in the treatment of disease. He, however, did not obtain in his country the same general encouragement as Nachtigall found in Denmark.

In Germany gymnastics made extraordinary progress, in the second decade of the present century, under Jahn, a man of the greatest skill in the art, of which, indeed, in its modern use, he is justly esteemed the founder.* His idea was to unite the people of Germany into one nation, intellectually, morally, and physically strong against the threatening enemy of the West. Boldly and vigorously, a real reformer, he advanced towards his high ideal, the realisation of which was attained with a surprising rapidity, notwithstanding the many impediments that stood in his way. The number of his pupils increased daily. His ideas of a revived national education were in this work offered to the nation, and were enthusi-

---

* The author has given, page xiii., a biographical sketch of this remarkable man, to whose memory this Essay is dedicated. Jahn was indeed the founder of modern Gymnastics. Many parts of the apparatus, such as horizontal bars, parallel bars, and others, were invented and introduced by him; and to him is owed the plan on which the exercises are conducted.

astically received. Soon gymnastics took a national character. Boys, youths, and men, of all classes of society, took part in the exercises, and gymnasia sprang up in all parts. Nor was it long before, from these gymnasia, thousands of "Turners" of all ages rushed forth on a given signal as volunteers to the unfurled standard of their Fatherland, to prove, in a deadly struggle for freedom and country, the strength and self-reliance which they had acquired in the gymnasium.

After the German War of Independence, the effect of gymnastic training was fully recognised. On their return from the battle-fields, the gymnasts went again to their work with vigorous zeal. Gymnastics had gained a considerable importance, through the valour and endurance shown by the Turners during the war. Gymnasia were established throughout Germany, from the primary school to the university.

Jahn had a faithful fellow-worker in his pupil Eiselen, who laboured with an enthusiasm as great as that of his master for the extension of gymnastics. In the year 1816 appeared the work entitled "Deutsche Turnkunst" (German Gymnastics), by Jahn and Eiselen.

After the heavy sacrifices which the Germans had made for the independence of their country, they confidently reckoned upon obtaining all those improved social and political institutions which had been promised by their many rulers in the hour of need. But they were doomed to be speedily disappointed; and none among them more so than Jahn and his disciples. In his lectures on German nationality he was frequently

carried away by his indignation. His Turners also, gave utterance to their discontent. Gymnastics soon began to be stigmatised as dangerous to the State. In the year 1819 the gymnasia throughout Prussia, and in nearly all Germany, were closed. Jahn, the patriot, was proscribed as a demagogue. Up to the year 1830 the gymnasia in Germany remained deserted. Gymnastics were, however, tolerated in Würtemberg, and permission granted to teach them.

I have entered into a rather lengthy description of the development of gymnastics in Germany, in order to show the great influence they had there, not only on education, but even more on the national spirit: a characteristic feature well worthy the attention of the student of history. Whilst in other countries gymnastics were and still are practised only by comparatively few, and the number of gymnasia is small; in Germany the "Turners" amounted, before the suppression of the gymnasia, to hundreds of thousands.

The new art of gymnastics created by Gutsmuths and Jahn had been early introduced into Switzerland. This country, formerly an integral part of the German empire, has never ceased to remain in close intellectual alliance with Germany. In this community it was Clias who organised a system of bodily exercises. In 1811 he began his labours in the field of physical education in the private educational establishment at Gottstatt. In 1814, when he was an officer in the Artillery, he introduced gymnastics among the soldiers. His exertions being very successful, he was appointed by the Government Professor of Gymnastics

in the Academy of Berne. From Berne the practice soon spread further, and was introduced into the principal cities of the Republic, into the colleges, into the educational institutions of Pestalozzi, Fellenberg, and others. In the year 1816, Clias published his first work, entitled, "Anfangsgründe der Gymnastik oder Turnkunst" (Elements of Gymnastics). The system of Clias was soon introduced into France, Italy, and England.

In France the practice was advocated not only by Clias, but also by Colonel Amoros, who subsequently (in 1818) introduced them into Spain. He followed in the main the ideas of Gutsmuths and other German writers on the subject. In the same year the gymnasium of Grenelle, in Paris, was founded.* These first masters of a restored art had numerous pupils, and their ideas have been carried into practice in the French army

---

* It is due to M. Lacroix, surgical instrument maker in Paris, to record here the fact that about the year 1814 he established in his house a kind of medical gymnastic apparatus, consisting in a ladder attached to a mast. The "balanciers" were arranged in such a manner as to favour the extension and elasticity of the muscles of the neck, arms, legs, and feet. There was, besides, a rope to imitate the exercise of ringing of bells, and another one to imitate the drawing of water from a well, a mechanism destined to act upon the vertebral column, and the convex part of the body. Dr. Friedlaender—"De l'éducation physique de l'homme," Paris, 1815—from whose book this notice has been taken, says that *bell-ringing* was formerly a favourite exercise of the English, an assertion confirmed by travellers who visited England in the 15th and 16th century; among others, by Paul Hentzner, a traveller of note. Young gentlemen used to cool their exuberant spirits by ringing the city bells for the edification of the citizens.

and in many educational institutions. The regiment in which gymnastics were especially and vigorously practised were the "Chasseurs de Vincennes," formed under Louis Philippe, afterwards called "Chasseurs d'Afrique," and the corps of the "Pompiers," which have attained a high degree of skill.

In 1843 gymnastics were more extensively introduced into the French army. French military gymnastics did not differ essentially from those carried on at that time in Germany.

Besides Amoros, Triat, who appeared at a later period, was very successful in Paris. He used in his gymnasium a great variety of complicated machines, intended to develop the various systems of muscles.

In 1822* Clias was invited over to England. In this country, having been invested with the rank of captain, he introduced gymnastics into the army and navy. He obtained in 1823 (20th of March) an appointment as Professor of Gymnastics in the Royal Military

---

* It appears that at the beginning of the present century various efforts were made to introduce German gymnastics into this country. It has been mentioned that Vieth's work was translated into English. But how far those efforts succeeded the author has not been able to find out. It is, however, beyond doubt that seventy years ago a great interest was felt in bodily training, which was not limited to the male sex. Dr. Friedlaender, in his work, "De l'éducation physique de l'homme," Paris, 1815, says that at the beginning of this century the foot-race was greatly practised in England, not only by boys and young men, but particularly also in *ladies' schools*. "C'est pour exécuter ces exercices avec décence, qu'on leur a donné des pantalons."

Academy, Woolwich, with a salary of 200*l.* a year, for two lessons a week. In 1825 was published in London his work, "Elementary Course of Gymnastic Exercises." He occupied his post in the Academy until September 4, 1825, when instruction in gymnastics was entrusted to such non-commissioned officers as were considered capable of giving it. But, in the Academy as well as in the army, gymnastics gradually fell into disuse, and have only been partially revived of late after a long interval. The obvious cause of the rapid disuse of gymnastics is the want of interest, the unfavourable prejudices, in the minds of the educated, who disregarded this important branch of instruction.

Gymnastics were, it is true, introduced into a number of English private educational establishments, at the same period as into the army. As early as 1826, a Gymnastic Society, directed by a German of the name of Völkern, was founded, and during the first months of its existence had upwards of 900 members. The Society practised in Wharton Street, Pentonville. But as in the army and the schools, so here, gymnastics soon fell into disuse.

In the year 1823, the year of Captain Clias's appointment in the Royal Military Academy, were published, "Instructions in Gymnastic Exercises as taught and practised in the Gymnastic Institutions of Germany. By a Military Officer." This is an excellent and useful little work, with eleven illustrative plates. The anonymous author, who says that he had studied the system in Germany, mentions in his

preface, that whilst his work was in the publisher's hands, he discovered that a work of a similar nature had recently been published. The author has not been able to see this latter work.

In Switzerland, the pupils of Clias continued the work he had begun, and the study of gymnastics received a new impulse in the year 1832, by the foundation of the great Swiss Gymnastic Association, which spread over all the Cantons, and included members of the learned professions, of universities, and of all kinds of trades. Annual festivities and numerous publications largely increased the importance and strength of this association. An influential feature of Swiss gymnastics was that they were introduced into the training colleges of teachers, especially at Münchenbuchsee, and were directed by such eminent professors as the German Adolf Spiess, well known by his important work on gymnastics, his adaptation of them to children of both sexes, and his systematic treatment of the whole subject. In these training colleges, gymnastics were taught as a regular branch of instruction, with the object that whatever was learnt should be again imparted, in the primary State schools. In consequence, gymnastics soon became general in Switzerland, and were introduced into primary schools of country districts. In the Swiss school regulation of 1835, a special stress is laid on "the gradual introduction of gymnastics, by aid of the State." The Council of Education strongly recommended them to all teachers, as belonging to their

calling, and promised assistance. In 1849 a new school regulation directed that gymnastics should be introduced into the scheme of the entire system of education, as an obligatory branch of instruction.*

In Germany the political reaction against gymnastics did not succeed in finally extinguishing them. After an interval of nearly twenty years many new champions came forward—with more matured opinions, and with a firmer conviction of the advantage of bodily exercises—and laboured to revive them. The first impulse in this new movement was given by Dr. Lorinser, physician to a board of health, in a work entitled "Zum Schutz der Gesundheit in den Schulen" (For the Protection of Health in Schools), published in 1836. This work excited general attention. Lorinser made it a reproach to the schools that with their present organisation they were less really developing the intellectual faculties than mechanically filling the heads of youths with a mass of mere instruction, and that at the expense of cheerfulness of temperament, of the student's originality, and of his bodily health. A great number of opinions of eminent men, pronounced on this work, advocated the re-opening of gymnasia as the only means of preserving body and mind in health and vigour. The gymnasia were opened again. Men of great merit, as Werner, Diesterweg, Moennich, and others, addressed

---

* An excellent little prize essay was published, in 1852, on gymnastics, with special regard to Switzerland, by John Niggeler: "Gymnastics, their Influence and Promotion." The writer of this essay has made use of it in various places.

the nation, and strongly recommended the restoration of gymnastics. The advice of these men was not only listened to but followed. In the year 1844 a great step was made in favour of physical education. By decrees of the Cabinets of several States of the German Confederation, it was placed on a better basis. Normal schools were founded for the education of the teachers of gymnastics, and with a view of establishing the art upon thoroughly scientific principles. Besides the gymnastics which were practised in schools and colleges of every kind, numerous associations and clubs were established by young men themselves for the cultivation of bodily exercises. Gymnastic gatherings and festivals now took place at regular intervals, at places successively agreed upon—a plan resembling the arrangements of the British Association. By this means the interest in physical education was greatly increased. A fresh and truly youthful life again entered the schools of Germany.

But soon the practice of athletic sports was again to incur unpopularity. As in the time of the War of Independence, as in the time of later political agitations, so again in 1848, gymnastics were used as a means to promote the union and liberty of the German nation. Those Germans—and their number was continually augmented—who worked together to restore their country to its former unity and independence, employed every means to attain their end, and none appeared to them more effectual than invigorating gymnastic exercises. Thus, in the political commotions of 1848–9, "the Turners" again took an active

part in the struggle; and, in consequence, their exercises were again, in some countries, laid under a prohibition. This did not, however, continue long in force. The value of gymnastics was in course of time again acknowledged.

Nevertheless, though such exercises are now practised both in secondary and in primary schools, they have not yet become as general as they ought to be; and, perhaps even in consequence of their having become a regular branch of education in schools, and having been introduced into the German armies, which now comprise all the able young men of the country, they have lost a great part of the enthusiastic favour with which they were once regarded, and the clubs and festivals have decreased in number and brilliancy. These are, however, even at the present time, numerous enough to form a considerable body. Statistics furnish some very interesting data as to the part which the German gymnasts took in the Franco-German war. The number of their societies amounted, on the 1st of August, 1869, to 1360, comprising 110,353 members. Of these societies 1051, with their 81,737 members, attest their activity during the war. Of these members 14,909 were summoned to join their regiments; and, of these latter, 11,591 were on duty in the enemy's country, 1243 were wounded, 617 were killed or died of their wounds, 191 succumbed to disease or fatigue, 580 were decorated with the iron cross, 1119 attended upon their sick and wounded comrades, in the enemy's country. Of the total number 59·61 per cent. were between the ages of 21 and 30. Gymnastics have also

been introduced into the United States, where the numerous Germans and many of the Anglo-Americans practise them. The German-American gymnastic societies form a body of at least 50,000 men or more, and they played an important part in the struggle between freedom and slavery in the United States—being, it is needless to say, ranged on the side of freedom.

In 1861 a German gymnastic society was formed in London. This society is the parent of the large number of English gymnastic clubs. Although it was founded, and is still directed, by Germans, the number of English soon surpassed that of German members, and the society has trained and sent forth thousands of English gymnasts.*

In the English army, gymnastics attracted more general attention after the Crimean war, when the establishment of gymnasia as a means of training and

---

* Two Germans residing in London were the chief promoters and supporters of this still flourishing society. Mr. Ernest Ravenstein, the son of a celebrated professor of gymnastics in Frankfurt, late of the statistical department in the War Office, is one of them. Mr. Ravenstein published, with Mr. John Hull, gymnasiarch of Liverpool, an excellent "Handbook of Gymnastics and Athletics" (London, Trübner and Co.), and obtained the first prize of the National Olympian Association for an essay on "Physical Education, with special reference to our Elementary Schools." He was president of the German Gymnastic Society for many years. Mr. Roman Schweitzer, a gentleman well known to the athletic and gymnastic circles of this country, in former times one of the first gymnasts of Germany and Switzerland, has ever since the establishment of the German Society (1861) to the present day superintended, as gymnasiarch, the exercises of this society, in the success of which he has had a great share.

recreation was one of the many projected reforms undertaken by Lord Herbert. In 1859 General Hamilton and Inspector-General Dr. Logan were commissioned to inspect the systems in use on the Continent; and they presented a very interesting report, which was subsequently published. A grant of money was immediately made for a gymnasium at Aldershot; the institution was placed under the direction of Colonel Hammersley, and excellent results followed from the practice thus afforded. At a later period, by order of Lord de Grey, gymnasia were built in all barracks; and a complete code of instructions, drawn up by Mr. MacLaren of Oxford, was published by authority.*

The object of the foregoing historical outline of gymnastics is to show that such exercises are not a modern invention, but an ancient, long-forgotten art. I earnestly hope that it may, before long, be again brought into general use. Before concluding this chapter I will give a few lines to the description of modern gymnastic exercises.

CHARACTER OF MODERN GYMNASTICS.

The practice of a modern gymnasium is strikingly different from the form of ancient usage. Here we find no dignity of presiding magistrates, judges of con-

---

* Mr. MacLaren has published several valuable works on gymnastics, and has greatly contributed to the extension of physical training in this country. His services in the army have been highly important. He published in 1862 a little work, "Military System of Gymnastic Exercises."

tests, or national rewards; no baths for exhausted competitors, no halls for innumerable spectators. Modern gymnasia are merely spacious inclosures, mostly constructed open to the air, though occasionally covered in, where the number of pupils does not, unfortunately, permit any sort of comparison with those who were wont to assemble in the ancient gymnasia. The most prominent feature in the modern structure is the climbing scaffold, a horizontal beam elevated at various heights and supported by perpendicular joists at both its extremities. Attached to this contrivance are ladders of wood and of rope, fixed or suspended climbing poles of different diameters, smooth ropes, ropes with knots or rings, &c. Other contrivances are, single and parallel bars of different heights, fixed or movable, the oscillating beam, step-ladders, wooden horses, machines for high jump, trenches for leaping at distance, &c. &c.

The exercises of the climbing-scaffold are designed to teach the various modes of climbing or scaling to any elevation, whether by means of perches, ropes, or masts; to traverse a narrow path without fear of falling; to lift and impel the body by the strength of the arms. There is nothing more varied and graceful than vaulting on the parallel bars and on the wooden horse. The so-called "pass rivière" accustoms the practitioner to pass through a great distance, flinging himself through the air. By means of the oscillating beam the sailor's step is acquired. In short, all the exercises conduce more or less to the development of strength, address, self-reliance, and boldness. In many gymnasia great use

is made of weights of various forms, either as single or as belonging to more complex machines, or gliding on inclined planes, the whole combined in such a manner as to bring into play a particular system of muscles. Among the weights, the use of which tends to develop the brachial, humeral, and thoracic muscles, may be mentioned the clubs, dumb-bars, and dumb-bells, formerly known to the Romans. These exercises have the great advantage that they can be practised at home. They are excellent for strengthening a weak or delicate chest. They must, however, be performed with caution, with weights, small at first, and gradually increased.

As in ancient times, so also in our own, medical, or rather hygienic, are closely allied to educational gymnastics. They flourish or fall together. Upon the whole, the latter ought, with very slight qualification, to be the same as the former. All such practices ought to be hygienic, for many persons attend the gymnasium for health's sake, to counteract special injurious effects of their profession. Medical gymnastics might be distinguished into hygienic and therapeutic—the former belonging more to the domain of gymnastics in general, the latter forming a distinct class, very different from the others. The range of modern hygienic gymnastics comprehends exercises which belong to the gymnasia, but it includes others which require for their performance particular conditions and places. The writers on hygienic science usually distinguish them into active, passive, and mixed exercises. Active exercises are—marching, racing, leaping, danc-

ing, various games of ball, nine-pins, billiards, fencing, boxing, swimming, skating, vocal exercises. Passive exercises are—navigation, and driving in different vehicles. Mixed exercises are—active navigation, rowing, riding, &c.

Of therapeutic gymnastics this is not the place to treat. They are used for a great variety of purposes; and often, in cases of paralysis, curvature of the spine, &c., with great success. I must refer those who wish to know more on this point to the works of Ling, to whom great praise is due for the development of this circle of gymnastics. Also the Germans, Schreber and Berend, have handled this subject successfully.*

Marching, running, leaping, and dancing develop principally the lower limbs. The figure of professional dancers is well known—the prominent haunches, voluminous thighs, and largely developed calves—while the upper parts of the body are disproportionately feeble and slender. Running, indeed, acts less upon the lower limbs than upon the respiratory system. Billiards constitute one of the most agreeable of moderate exercises, and are well fitted to promote the work of digestion. Fencing gives to the movements strength and precision; but it is necessary to fence with both arms, otherwise the right side, acquiring a disproportionate dimension, will cause a defect in the equilibrium of the two lateral portions of the body. Natation is a

---

* The chief representative of Ling's therapeutic gymnastics in England is Dr. Roth, who has published a series of valuable works on the system, which he has further developed.

valuable resource during the heat of summer, as it enables us to carry on violent movements without sustaining that deperdition of strength, which is the inevitable result of a continued muscular action under the influence of an elevated temperature. The entire motive system is put into activity by the swimmer, who, in order to keep himself on the surface of the water, is obliged to employ greater effort than is required by animals, by reason of the position of the human head and of the bucco-nasal cavity; the conditions are changed by swimming on the back. Hunting secures very varied movement. "Venatori necesse est deambulare, currere, saltare, modo erectum, modo curvum stare, vociferari etiam, summatim omnes corporis partes exerceri." (Ramazzini.)

Tissot, in his treatise, insists upon vocal exercises; reading aloud, singing, declamation; to play on wind instruments is, in his opinion, the best means of strengthening weak chests. Dr. Lallemand asserts that, among singers, he has never met with a phthisical subject. The result of vocal exercises is the growth in volumen of the lungs and larynx; in exchange the excited buccal secretions render digestion more prompt and the appetite keener. There results from this exercise, however, a tendency to diaphoresis. We often see an orator in violent perspiration in the midst of an audience, whilst his hearers are benumbed with cold. For teachers, advocates, preachers, lecturers, and singers, vocal exercise constitutes to some degree their active life, and counterbalances the evil effects of their sedentary habits.

In order to render any wheeled vehicle a really effective medical exercise, it is necessary to avoid those carriages which are so well hung that one might imagine one had never left one's easy-chair. The horseman is at once active and passive. He principally uses the adductor muscles of the thigh and those of the sacro-lumbaris. Hygienic gymnastics possess few exercises so salutary as that of riding on horseback, if practised in moderation, is found to be. In this, as in all other exercises, abuse must be avoided.

Any one who has occasionally practised rowing will be able to comprehend the advantage resulting from it. Varied as it is by pauses of rest, it can, although demanding violent exertion, be continued a long time. It strengthens the muscles of the arms, especially those in the pectoral region, and, at the same time, those of the loins.

MODERN POPULAR ATHLETIC EXERCISES, GAMES, AND SPORTS.

Besides the above-described systematic educational and medical gymnastics, we find, in different countries of Europe, various kinds of athletic exercises, games, and sports, several of which have come to us from remote ages, and remind us of the ancient gymnastics from which they are derived. The boxers of England recall to us the pugilists; the English, German, Swiss, and French wrestlers bring back to the mind the combats of the Greeks. On the other hand, the bull-fights

of the Spaniards remind us of those terrible and demoralising scenes in the Roman amphitheatre.

But these modern popular games and sports are not national and general in the sense in which those from which they take their origin were so. Nor are the other exercises, which are derived from those of the Middle Ages, such as single-stick, sword, and others, truly national. Whilst in ancient times philosophers, magistrates, princes, kings, appeared on the arena or in the lists to engage in competition or combat, now-a-days the public participation in such sports is shown in a very different mode and measure. Many games which in the Middle Ages were practised by the middle classes, are now left to the lower orders, or limited to the rural districts. Most of our modern popular games take place during popular festivals. These festivals have everywhere a character belonging to their own locality, and are in no two places exactly alike. Usually, too, one kind of sport alone is performed at any one festival; it is but rare to find a variety of exercises practised at one time in any particular district. In some parts of England we find wrestling, as in Cumberland, Westmoreland, Cornwall; in others, foot-races, as the prevalent and favourite exercise. The same thing is observable in Germany. In some parts, climbing is the exercise preferred; in others, the foot-race; in others again, wrestling or leaping; the use of the sling, lifting of weights, and other exercises. The latter is a favourite game among the Dithmarses, a North German tribe. In Switzer-

land, as in Germany, some special kinds of exercises and games are found among the people, especially in the mountainous countries. The principal are—the throwing of blocks of stone, wrestling, and lifting, in which the whole youth of the rural districts participate at popular festivals. But as a proof that in former ages these rustic games were more national, and embraced by a great part of the community in Germany and Switzerland, I quote here the words of the celebrated Swiss historian, Johannes von Müller, who says, referring to the fifteenth century, that the cultivation of bodily aptitude, without which the wisest and boldest man is awkward, was carried to a great extent. The most distinguished cross-bowmen, and those who excelled in running, leaping, and throwing large stones, were often invited by towns and country districts to general contests. The prizes were horses, oxen, silver cups, gold rings, clothing, and money. There were judges and umpires, and regulations for the contests; and, though different as to their evolutions, these contests took place in ancient Greek fashion, with almost ancient emulation. Yet more imposing were the spectacles of those splendid games which knights and lords celebrated in honour of their friends. Such exercises, says J. v. Müller, by which courage and brotherly feeling were strengthened, and which promoted manliness, upheld the Fatherland and human dignity better than the sleepy, machine-like handling of arms, by means of which a class of second-rate commanders can carry on the art of war.

Through preceding centuries down to the present

day, the above-named exercises have been kept up in several parts of Germany and Switzerland, but with the difference, for some time past, that they have ceased to be national and general.

Besides the games and sports of ancient origin, most of which are now confined to the lower orders, there are others which exclusively belong to the higher orders, such as steeple-chasing and archery. There are, moreover, many popular games which are favourite amusements in all classes of English society, although practised only at certain seasons of the year, such as cricket and football, both of which are exercises most valuable for strengthening the body and sharpening the eye.

CONCLUSION.

From the preceding historical sketch the following inferences may be drawn :—

Aucient civilisation cultivated gymnastics with enthusiasm, with religious zeal. The Greeks and Romans thought that they were the only means of creating and maintaining energetic races, capable of preserving themselves, and of increasing and extending their dominion. In the Middle Ages, the reign of physical force was supreme; and, therefore, contests for superiority in physical force were important and were general. But modern nations, having neglected gymnastics, return to them but with difficulty and by degrees only, overlooking the reasons which still exist in favour of their cultivation.

If asked how it comes to pass that physical strength, so much esteemed by the ancients, is, in comparison, so moderately estimated by the moderns, the author would suggest, in explanation, the causes following :—

First, the spiritualising tendency, impressed gradually and slowly upon Christianised nations by that religion which had risen upon the ruins of Pagan materialism. Luther, when he wishes to remind the nations of the traditions of the primitive Church, exclaims with his impetuous eloquence that with the Word we must fight, and conquer and overthrow what has been erected by

material force. And, indeed, the early Christians had no other arms but words and examples.

Again, the great movement of the fifteenth century, or of the Renaissance, was another cause of the decay of physical education. Literature, arts, sciences, discoveries, had rendered the field of intellectual endeavour so extensive and so varied, that it was more than sufficient to give a full latitude to human activity, and to satisfy that imperious incessant craving after progress, that love of enterprise which, in one form or another, influences and disturbs the whole of human nature.

The invention of gunpowder in warfare had also some influence on the disuse of gymnastics. Strength is necessary to man against natural obstacles and against his fellow-men; but if he has well-constructed engines which centuple his individual power, he naturally lays aside the use of this latter gift. In the battles of old time it was the most vigorous men who decided the victory. Fire-arms establish among all men a terrible equality.

It may also be suggested that the external circumstances of ancient nations tended to improve physical training among them. Surrounded and shut in on all sides by barbarians, whom the instincts of want and the love of plunder led on to invade richer and more fertile countries, they were obliged to vanquish or to yield, to conquer or to be conquered, to master other lands in order not to lose their own. The result was that prodigious development, among the Greeks and Romans, of the strength and physical capabilities whose achievements are familiar to us all.

PART II.

ON PHYSICAL EDUCATION:

ITS NEGLECT, ITS BENEFITS, AND THE MEANS FAVOURABLE TO ITS PROMOTION.

PART II.

INTRODUCTION,

EXTRACTED FROM THE WORK

"ON PERSONAL CARE OF HEALTH,"

BY

DR. E. A. PARKES, F.R.S.

Late Professor of Military Hygiene in the Army Medical School, Netley, and Emeritus Professor of Hygiene in University College, London; Member of the Senate of the University of London, &c.

"PARTS, when used, grow; when not used, waste and become small. The conditions of growth are that a part shall be exercised, and shall be supplied with food.

"This is true not only of every muscle and nerve in our body, but of mental and moral qualities. The proper regulation of exercise forms, then, one of the most important rules of this period, and the object to be aimed at is to exercise all parts of the body which the will can influence. If we could place a young man or woman in the most favourable conditions (and among the richer classes in this country all could be thus placed), the following distribution of time would be the best:—At this period of life eight hours, at least, out of the twenty-four are required for sleep, and I believe nine would be often better. Of the remaining fifteen, three to four hours might be occupied with meals and

rest during the day, and the remaining eleven or twelve should be given to exercise. Of the eleven or twelve hours, I believe that half the time might be given to mental and moral, and half to bodily exercise; but I do not venture to state this as a rule for all classes. The mental and the bodily exercises should be alternated. I believe two hours at a time is quite enough mental work, if the attention be fixed; and the results of the short-time plan in the agricultural schools show how much may be accomplished by fixing the attention firmly for a moderate time, and not overwearying it. The development of the mental and moral faculties, by careful exercise during this period of life, is a theme which I cannot pursue. I would merely say that the way in which memory—the power of comparison, rapid apprehension of facts, regard to truth, feelings of justice, benevolence, &c.—may be cultivated by exercise, is quite as extraordinary as the way in which particular sets of muscles may be developed at will. It would seem almost to support the view that different parts of the brain are connected with these faculties, for how else can we account for their growth so readily as by supposing that exercise produces a more perfect nutritive condition of their material substratum. Bodily exercise is, however, the point I have to discuss. This is necessary in all periods of life, for without it the circulation of blood in the interior of the body, and especially through the liver, becomes feeble; the heart grows weak, and the lungs expand and work less perfectly. Diseases of the liver, lungs, and heart may be produced or favoured by too

sedentary habits. But in this period of life exercise is all-important, for without it the muscles and the nerves, and even the bones, remain comparatively weak and small.

"In the richer class, young men are at schools or colleges during most of this period, and happily, owing to the general liking for bodily exercises and field sports, a good deal of muscular exercise is taken, though not always perhaps in the best way. But among the young women of the same class this is certainly not the case as a rule. Physical education is very much neglected, and any one who looks at the young ladies of our time cannot avoid noticing that large numbers of them are growing up tall, narrow both in chest and hips, and with every sign of rather feeble health. A race depends largely for its stamina on the mothers, and must degenerate if these are feeble and want bone and muscle. It cannot be sufficiently known that young women ought to be physically trained as carefully as men; they will never have the same strength, nor is it meant that it should be so, but they ought to have strong, firm muscles and well-developed chests and haunches. These things can never come without bodily labour, and I do not think that five or six hours daily real exercise is one minute too much even for them.

"In the poorer classes, employed as they are during this period in shops, factories, farms, and in a thousand different ways, it is not easy to say what is the average amount of muscular work each takes, or whether it is in excess or the reverse. It seems clear that the indoor,

sedentary, and quiescent occupations have increased in an extraordinary ratio during this century as compared with the outdoor, active, and laborious trades. And some writers believe they can even now trace in our manufacturing towns a decided decline in the height and power of both males and females. It must be admitted that that is likely, for in many trades a boy or girl begins to work at fourteen or fifteen, and requires to use the muscles very little. They grow up narrow-shouldered, and with soft, small muscles; these acquired conditions will be transmitted to a certain extent, and the next generation may perceptibly lessen in size. . . . .

"The richer classes could easily regulate the amount and kind of bodily labour, but the poorer classes, who are obliged to follow their occupations many hours daily, cannot do so.

"Happily many trades demand bodily labour. . . . But other trades are sedentary, and both boys and girls may be in one position, or at any rate will have very little bodily movement for nearly the whole day. . . . How is this to be met. . . . . ?"

After having described the effects of various exercises, such as walking, rowing, running, games, &c., Dr. Parkes says:—

"*For exercising all the muscles of the body there is nothing, however, like good systematic work in a gymnasium. . . . . It is most earnestly to be hoped that cheap gymnasia in our large manufacturing towns may soon be common, and afford this exercise to the artisans engaged in sedentary trades.*"

ON PHYSICAL EDUCATION:

ITS NEGLECT, ITS BENEFITS, AND THE MEANS FAVOURABLE TO ITS PROMOTION.

I.

NEGLECT OF PHYSICAL EDUCATION.

The destiny of man is not only to exercise his intellectual and moral faculties; he must also act, resist, struggle, through the medium of his body. Our modern civilisation, with all its contrivances and instruments, that work and act for us, seems to have caused a great disregard and neglect of the powers of our own limbs. But, if some unforeseen event throws us out of reach of our appliances; if we have to struggle with physical agencies, as cold and heat, with fatigue, with the elements, with animals, or with our fellow-men; then we lack that courage and confidence which, as Montesquieu says, is but man's consciousness of his strength, and we succumb powerless.

The ancients understood far better than we do the harmonious development of body and mind. The maxim, *mens sana in corpore sano,* was among them strictly heeded. Bodily exercises were celebrated in song, and glorified in the annals of history. They were, as we have already seen, constantly practised in the gymnasia; and the heroes of the public games en-

joyed an almost idolising adoration. Both in Greece and Rome physical education was regarded as the foundation of physical and intellectual, public and private welfare; and the soundness of this view has been proved by brilliant results.

The student of history must observe, that whilst mankind has made enormous advances in civilisation in general, it has, in some respects, gone backwards. This is especially the case with regard to physical education. The educational principles of the ancients, so entirely in harmony with the constitution of man, have been gradually abandoned. It is true that much has been done, especially in our own time, for some branches of education. But, with all the endeavours made to advance intellectual education, one thing seems to have been overlooked—that man has a body, which stands as much in need of development as his mind. While attention has been bestowed almost exclusively on the latter, the former has been left to natural instincts, and dependent upon the accidental course of bodily occupations. Thus, a kind of estrangement has sprung up between mind and body; the mind, regardless of its partner, has soared aloft into regions of ideal life, while "the temple of the spirit" has been, like a neglected dwelling, allowed to fall into premature decay.

This neglect of the body begins often in the nursery. The tender heart of the mother rarely regards the future physical development of the infant. She cares more for its present wants and wishes, and but too readily assists and encourages sensual desires, through

which the child is spoiled, often for life. Fashion, food, and clothing, all tend to promote enervation among the young of the well-to-do classes. All sorts of articles of clothing, gloves, furs, &c., are provided to envelop the little body during inclement weather. Thus the child is brought up, incapable of bearing heat or cold, wind and rain. Instead of accustoming it, at an early age, to endurance in walking, it must be wheeled about in a perambulator.

This pernicious system is frequently continued in schools for children.* At school every possible exertion is expected of the mind, but the body is left to itself. Insufficient time is left for exercise or play. Even in infant schools we see education pursue this unnatural course. For unnatural indeed it is to drag the infant creatures from their cheerful and free life of youth, from the fresh and invigorating air, to crowd them together in the close atmosphere of a room, there to be trained to sit still, and to be crammed with indigestible intellectual food. Parents and teachers take all possible pains to produce, as early as possible, a dangerous *polymathy* in their children, forgetting that too often the consequence is the early fading of the young plant. In infant schools, or any schools for children, the development of the tender body of the child should be the first care, and suitable games should furnish the first occupation of the mind. Special

---

* The following remarks do not apply so much to the children of the well-to-do classes, but to those of other classes, by far the greater majority, and particularly to little girls.

bodily exercises, adapted to their age, should accustom them to attention and order. The younger the children, the more unnatural is it to compel them to sit still, keeping the body long in one attitude. The fashion at present is to commence the mental training of children as early as possible. Experience shows, however, that physically healthy and vigorous children soon overtake, in mental work, the physically weak ones. It is an acknowledged fact, that to pass long hours on school forms, without change, is the source, especially in the case of lively children, of manifold evils.

In higher educational institutions, where the demands on intellectual activity are far higher than in elementary schools, the mind is still more burdened; and, after the hours devoted to instruction, little time remains for systematic and regular exercises for all, during all seasons and weathers.

What are the consequences of such an unnatural and defective education? A premature and excessive straining of the mind engenders precocity, and thereby moral and physical development is arrested. The entire vital activity is directed to the brain, which thus receives premature and one-sided development. The excessive amount of vital force absorbed by the brain is taken away from the other parts of the body, and an early cessation of growth is the consequence. This produces men unfitted for exertion and the battle of life, who too often, after a sickly life, fall into an untimely grave. Depression of the

heart, irritability of the nervous system, weak digestion, rheumatism, consumption, vertigo, curvature of the spine, and a host of other diseases, are increasing among our present generation, in consequence of sedentary habits of life, insufficient exercise, and muscular weakness. Especially do the evil consequences of neglected physical development show themselves in the female sex, among whom bodily exercises are entirely neglected, except in the richer classes. The changes introduced by modern life have a deteriorating influence on the race. Men have left, and are leaving, the fields, and the cultivation of the soil, and congregate more and more in towns. In these, hundreds of thousands are chained to the desk, millions to the workshop. It has been proved, it is true, that the average duration of life is now higher than in former times. But this is owing, not to the habits of life, but to the progress of the science of health and of comfort, which now preserves the lives of many who in former times would have succumbed. If we would establish a correct comparison between now and formerly, we must not consider mere longevity, but the proportion of prevalent diseases, the general sanitary state of the community. Many a life is now preserved, in its feebleness, from year to year, to transmit, in many cases, the questionable boon of ailing life to a feebler progeny.

The consequences of a too early development of the intellect only, to the neglect of the body, are deplorably manifest also in a moral point of view. There is no

doubt that a premature and too rapid intellectual development, taxing especially the memory and imagination, often leads to a life of sensuality, and results in the fading away of many in the prime of life. Weakness of body induces feebleness of will, despondency, irresolution, a tendency to abandon work which does not succeed at the outset; and where there is thus a lack of the conscious independence of freedom, a man is like the reed, bending with the wind; tossed on the waves of fate, without will and energy, he has no heart to confront danger alone, trusting in his own strength. A too early sedentary existence, a one-sided intellectual education, want of vigorous open-air exercise, arrest the development of the senses, and with it also the cultivation of the understanding and the heart. What has been obtained in a short time by superexcitation to mental effort, is soon lost again.

The injurious consequences of such a mode of education are felt in the State and in the family; in a political, social, and military respect. Many more evil consequences of exclusive mental training might be mentioned. It must not be imagined, however, that I speak of our present intellectual education as excessive. Let us develop the mind in a natural and comprehensive manner, at the right time; but let us aim, at the same time, to establish harmony between mind and body. The power of intellect alone will not suffice us in time of need; intellectual attainments alone will not secure our happiness; we must also have health, strength, bodily skill, and firmness of will.

We need a change in our system of domestic and

school education. Out of school-hours our youth should be led to the gymnasium, there to develop their physical powers, to renew their spirits, and arouse their youthful ardour in methodical exercises and games.

Every philanthropist, and in particular every teacher of youth, should therefore lend his helping hand to bring about the revival of the Gymnastic Art, the invigorator of youth, the dispenser of health. Gymnastics reinstate the human body in its rights; they strengthen the chest, harden the muscles, give wings to the feet, cause the blood to course in livelier flow through the veins, and maintain and diffuse a youthful vigour over all the ages of man's life.

Many persons are, at present, prejudiced against gymnastics; they entertain a low notion of them, seeing in them but useless, if not dangerous, feats of strength. Others think that they may be useful in towns, but there only. Few appreciate gymnastics as a part of general education, as a means of training not only the physical, but also the intellectual and moral faculties. But the true happiness and perfection of man can exist only when he is in full possession of all his faculties; and the great educational object of gymnastics is to promote that beautiful harmony between mind and body, which is presented to us in the life of the ancient Greeks. This can only be done by a thoroughly scientific system of gymnastics, as a part of the regular school-curriculum, and conducted by thoroughly trained teachers. At present, gymnastics have attained a high degree of perfection. But they have until now been

practised by comparatively few, being banished from most schools, and frequently taught only by incompetent teachers. To show that they are of greater educational importance for all classes than is generally believed by educators, is the object of this lecture. I purpose to consider the subject from a *physiological*, *psychological*, and *practical* point of view.

II.

CO-OPERATION OF BODY AND MIND.

I PROPOSE now to prove the necessity of physical training, by considering the relation between body and mind. In attempting to do this we must meet the question as to what part the physical faculties perform in the perfection of man. Is there an antagonism between physical development on the one side, and intellectual and moral development on the other, as has sometimes been asserted? It has been, and is still, the habit of opponents of physical education to associate physical force with stupidity and brutality. This sophism is based upon examples of athleticism in its most exaggerated and degenerate form; upon the fact that many intellectually great men have had weak bodies; upon the supposed similarity of systematic physical training with the profession of mountebanks; upon the injury that unsystematic, one-sided, and excessive muscular training causes to the mind; and from such instances as these it is inferred that the body cannot be trained but at the expense of the mind; that a certain quantity of common aliment has been fixed by Nature for both, so that in case of the one requiring a larger share, the other must necessarily suffer loss.

The Greek and Roman professional athletes were certainly heavy and stupid, as Galen says. But the

cause of their brutality is not to be ascribed to gymnastics, but to their abuse of them, and to their irregular personal habits. These athletes offer, by contrast, the very best proof in support of a system of *equilibrium* in the faculties. By the side of such immoderate and disproportionate use of bodily exercises, we may place excesses in the opposite direction; there, also, we see exclusive and excessive labours of the mind, leading men astray, and launching them into a world of unreal, unsound, and extravagant ideas. Similarly, the moral faculty also may degenerate into excess, in consequence of having been exclusively cultivated, detached from the other faculties, and left without counterpoise and corrective. History affords numerous instances of aberrations of the moral sense, whether of a sacred, profane, or mystical character.

But is it true that men intellectually great have been remarkable for the feebleness of their constitution, as has been said? They were feeble in feeble nations, but strong among strong nations, according to the habits and manners of their age or country. If Pascal and Voltaire had feeble constitutions, yet Themistocles, Alcibiades, Socrates, and Plato excelled in the exercises of the gymnasium; on the broad shoulders of Plato rested the most intelligent head of all Greece. Witness, too, nearly all the great men of Rome; Sertorius swimming, in full armour, across the Rhone; Cæsar in Gaul; Pompey, of whom Sallust says:—"Cum alacribus saltu, cum velocibus cursu, cum validis vecte, certabat."

It has been maintained that, in consequence of an antagonism between the muscles and the brain, the state most favourable to intellectual work is that of languor of the body, in which activity of the senses or muscular excitation will not disturb profound meditation. There is no doubt that such a state favours intellectual dreaming. But for keeping the head clear and within the sphere of reality, and for re-invigorating the mind, there is nothing like holding the springs of the machine at a due degree of tension. J. J. Rousseau found that walking revived his ideas, and gave freshness to his feelings and sensations. In his brilliant improvisations the orator tunes his body to the diapason of his mind, accompanying his words by energetic movements and gestures.

He who, devoted to intellectual work, has learnt to temper the labour of the mind by the salutary diversion of muscular activity, knows well the fatal influence that torpor of the body exercises over the repose of the mind. The head has become heavy and embarrassed, the confused ideas throng in upon a mind incapable of separating and classifying them; words pale and colourless present themselves to express only hazy and imperfect thoughts; the reasoning process proceeds painfully; but an hour of walking, riding, or lively play dissipates the clouds; and, as Boileau says, "the words, which had fled, meet us at the other end of a wood."

Again, is it the fact that physical development impairs that of the feelings and moral qualities? Certainly not. It may be that now and then a strong

and energetic man does not feel with that delicacy which is peculiar to woman, and to some exceptional constitutions. But the feelings of honour, loyalty, fidelity, and respect for the institutions of Nature, of the family, of society, are found equally in both natures. How many men are there, who, having spent a life of labour, hardship, and continual struggle, have nevertheless feelings as fresh as their countenance, and hide, under an iron body, a heart of gold!

However different mind and body are respectively in their nature and functions, they form together an inseparable whole. True education therefore ignores a separation of mind and body; it demands the cultivation of the whole man—not only that of the understanding, the heart, and the will, but also that of the senses and muscles. It knows that if one part of the system suffers, the whole man suffers. What is beneficial to the body, is so to the mind. Sickness and weakness of body cause symptoms of suffering in the mind. Only in a healthy, sound body can the mind be perfectly healthy. Education must therefore aim at giving to the mind a sound and strong foundation; it must consequently follow and obey the rules of hygiene, by striving to bring into harmony intellectual and physical activity, exertion, and refreshment.

The body is the instrument of the mind. It is the executive of its thoughts. As such it has various functions to perform by different organs. For my present purpose, the organs of sensation and motion require special attention. The perfection of man re-

quires that the former be sound, keen, and quick, and that the latter be healthy, supple, strong, prepared for instant use. A well-developed organism will exercise a great and salutary influence on the mind, and elevate the intellectual and moral life. The true perfection of man is attained when the intellectual and physical are closely allied, when nothing contrary to Nature disturbs the inter-action of body and mind, when all the faculties work together, when will and deed act in unison, when the body duly executes what the mind directs. A man thus developed possesses moral courage; he delights in mental and physical work, has strength to suppress sensual predisposition, enjoys independence with regard to social and natural influences. The life of youth passes for him in purity, full of noble, generous impulses, and a vigorous manhood and hale old age are his portion.

While thus every production of human power is a work of common activity of mind and body, nevertheless the one activity may predominate over the other. The mutual co-operation is checked and impeded only when the body, having been imperfectly educated, refuses from incapacity to perform its office of servant to the mind.

The inner man is manifest in the outer man. Purity, truth, frankness, unaffectedness have their expression in external features; as also have falseness, cunning, impurity, hypocrisy. Grace, a noble carriage and gait, are outward signs of a noble inner man; just as a swaggering air betokens conceit. The countenance of the free man is noble; that of the slave is ugly and

repulsive. The body, then, is the expression, the image or mirror of the mind; and dignity and beauty are, therefore, among the fruits of physical training. Καλὸς καὶ ἀγαθός, said the Greeks. Though here it must be observed that real beauty does not consist in a mere form of feature and figure, but in the external expression of inward nobility of soul.

III.

EFFECTS OF BODILY TRAINING ON PHYSICAL, INTELLECTUAL, AND MORAL DEVELOPMENT.

I PURPOSE now to examine more in detail the effects of systematic training on physical, and thus on intellectual and moral development.

(I.) *Influence of Gymnastics on Physical Development.*

"A perfect state of health," says Dr. Parkes, in his Manual of Hygiene, "implies that every organ has its due share of exercise. If this is deficient, nutrition suffers, the organ lessens in size, and more and more degenerates. If it be excessive, nutrition, at first apparently vigorous, becomes at last abnormal, and also causes degeneration. Every organ has its special stimulus, which excites its action; and if this stimulus is perfectly normal as to quantity and quality, perfect health is necessarily the result. . . . . The action of the voluntary muscles is necessary for the perfect exercise of all organs. For the circulation of the blood, its formation and destruction, are profoundly influenced by the movement of the voluntary muscles. Without this muscular movement, health must inevitably be lost."

The effects of muscular exercises are local and general.

The Voluntary Muscles.—The local effect is the growth

of the muscles; they become firmer, and respond more readily to volition. When we exercise the arm—*e.g.*, by handling a club, or by striking with a hammer, or rapidly turning a wheel—the limb becomes the seat of a considerable fluxion: its bulk increases; heat is developed in it; and, if the skin be fine, and the capillary system rich, a ruddy glow is diffused over it, and a more or less abundant perspiration succeeds. If the limb is not accustomed to muscular exertion, lassitude presently sets in. An effort of the will may overcome this first feeling of fatigue, until one more imperious claims rest. Then, at a longer or shorter interval, everything returns to its normal state. Fatigue or stiffness disappears last. By the habitual practice of the same movements, the limb becomes the seat of a continued affluxion, of a more active circulation and nutrition; in a word, it becomes larger. The growth of the muscles, however, has a limit. If the limb is gradually accustomed to the exercise, it becomes able to resist, to a considerable extent, the feeling of fatigue. But the too frequent repetition of one particular exercise, or the excessive exercise of a single muscle or group of muscles, results in a wasting diminution. It appears that this is less the case when all the muscles of the body are equally exercised. But in any case, prolonged or too great exertion, without due intervals of rest, injures the nutrition of the muscles, and they become soft.

Thus moderate and gradual exercise leads to the progressive development of the muscular system, while abuse of it induces atrophy. Look at the thin legs of

a man who walks to excess—the lean arms of certain workmen or labourers, exhausted by fatigue. But exercise must not only be moderate and gradual, it ought also to be general—*i.e.*, *all* muscles, and not single groups, should be brought into play. One-sided exercise of certain muscles causes atrophy of the others. Smiths, fencing-masters, and others, often have right arms of extraordinary bulk, the legs of dancers are extravagantly developed, the shoulders of porters are like those of Atlas, while the muscles of the other parts of the body are shrunken.

The general effects of exercise are analogous to the local effects—viz., fluxionary movement towards the outer skin, acceleration of the pulse and respiratory movements, perspiration, &c.

In passing on to describe the effects of exercise on certain organs of the body, I again avail myself, in a condensed form, of Dr. Parkes' excellent Manual of Hygiene.

The Lungs.—The most important effect of muscular exercise is produced on the lungs. The pulmonary circulation, the quantity of air inhaled and of carbonic acid exhaled, is greatly increased. Thus—*e.g.*, a man inhales, under ordinary circumstances, 480 cubic inches of air per minute; if he walks four miles an hour, he inhales 2400 cubic inches; at six miles an hour, 3360 cubic inches; the amount of carbonic acid in the exhaled air increases in proportion. With fair exertion for ten hours a day the amount of carbon given off in twenty-four hours would be increased about one-third over the excretion in the same time during rest.

Thus muscular exercise is necessary for a due elimination of carbon from the body; and it is plain that, in a state of prolonged rest, either the quantity of carboniferous food must be reduced, or carbon will accumulate in the system.

Excessive and ill-arranged exertion may lead to congestion of the lungs, and even hæmoptysis. Deficient exercise, on the other hand, is one of the causes which produce those nutritional alterations in the lungs that are classed as tuberculous.

The Heart and Blood-vessels.—The action of the heart increases rapidly in force and frequency, and the flow of blood through all parts of the body, including the heart itself, is augmented. The amount of increase is usually from ten to thirty beats, but occasionally much more. After the exercise the heart's action must be carefully watched, and exercise should be discontinued if the beats become extremely quick (from 120 to 140 per minute) and irregular. Excessive exercise leads to affection of the heart, rupture, palpitation, hypertrophy in many cases, and more rarely valvular disease. Injuries to vessels may also result from sudden or prolonged exercise. Deficient exercise leads to weakening of the heart's action and to fatty degeneration.

The Skin.—The skin becomes red from turgescence of the vessels; perspiration is increased; water, chloride of sodium, and acids being given off abundantly. Evaporation reduces and regulates the heat of the body, which would otherwise soon become excessive; so that the animal temperature rises little above the average.

If anything check the evaporation, the heat increases, and soon languor comes on, and exertion becomes irksome.

During exertion there is little danger of chill under almost any circumstances; but when the exertion is over, the reverse is the case, because the heat of the body rapidly declines, and falls below the natural amount, while the evaporation from the skin, still further abstracting the heat, continues.

The Nervous System.—There is no doubt that great bodily vigour is quite consistent with extreme mental activity. Considering that perfect nutrition is not possible without bodily activity, it may be inferred that a fair amount of exercise is necessary for the perfect performance of mental work.

The Digestive System.—The appetite largely increases with exercise, especially for meat and fat. Digestion is more perfect, and probably a larger development of force is obtained from an equal quantity of food, than in a state of rest. The circulation through the liver increases, and the abdominal circulation is carried on with more vigour.

The Metamorphosis of Tissue.—The weight of the body is lessened by exertion, owing to the increased excretion of carbon, nitrogen, water and salts. The renewal of the muscles appears to take place only during rest; and they require apparently much rest, especially weak muscles.

The muscles, after exercise, easily absorb and retain water. Water taken after exertion does not pass off as usual by the kidneys or the skin; and instead of

causing an augmented metamorphosis, as it does in a state of rest, it produces no effect whatever. It is probable that it enters into the composition of the muscles, from which water has been passing so rapidly during their exercise.

Thus, as has been seen from the above quotations from Dr. Parkes, exercise stimulates the nutritive functions, accelerates secretion, increases animal heat, and is an efficacious means to counteract extremes of temperature. At the same time it sharpens the external senses, promotes cheerfulness and vivacity, and induces refreshing sleep.

Now, is the strengthening of the constitution the direct result of gymnastic exercise? It is true the athletes were frequently subject to maladies, and were only moderately efficient soldiers. They had, as a rule, indifferent constitutions. But this was rather due to exaggerated and one-sided exercise, to the violation of all hygienic rules, as well as to a life of idleness and excess. The Greek Agesilaus, feeble and sickly at his birth, was on the point of being exposed in infancy, and owed his life only to a movement of maternal pity. By means of the practice of gymnastics, he became capable of resisting the greatest fatigues of war. But we must distinguish between force proper and mere force of resistance. There is a difference between being strong and being robust. Gymnastics bestow the second quality less easily than the first. The robust man owes his vigour in some degree to the good harmony of his native constitution; special aptitude to meet the rigour of the elements, and to confront fatigues and priva-

tions, is not imparted by gymnastics, but only facilitated by them. But to restrict the effects of gymnastics within exact limits is not the same thing as to deny their importance and usefulness.

In fortifying the constitution, gymnastics exercise a very beneficial influence, as preventive of many diseases, upon their cure, and on convalescence. They are salutary in epidemics, when corporeal activity is often the most efficacious means to stir up moral energy. They are powerful against scrofula, rachitis, against arthritic affections followed by ankylosis, against chlorosis, chorea, and most nervous affections. On delicate chests, gymnastics have a very beneficial effect. In fact, a well-regulated course of exercises is acknowledged to be an important remedial measure in threatened phthisis.

There are, however, several maladies which preclude the use of gymnastics, such as the class of inflammations, where rest is the first condition of treatment, organic affections of the heart and of the large vessels, advanced phthisis, &c. But in the first stages of the latter disease gentle and cautious exercise has been prescribed with success.

It may be imagined that gymnastics, which render all the functions of the body more energetic, might themselves become a source of disease, unless carried out with certain precautions and according to hygienic rules. I will point out certain rules, the observance of which I consider highly necessary.

During exercise the action of the lungs should be perfectly free; not the least impediment should be

offered to the free play of the chest and the action of the respiratory muscles. The action of the lungs should be watched when men are being trained for exertion; as soon as the respiration becomes laborious, and especially if there be sighing, the lungs are becoming congested, and rest is necessary. The great increase in the excretion of carbonic acid renders a much larger amount of pure air necessary. In every covered building where exercise is taken, the ventilation must therefore be carried to the greatest possible extent, so soon does the air become vitiated.

In commencing an unaccustomed exercise, the heart must be closely watched; excessive rapidity (120 to 140 beats per minute), inequality, and irregularity will indicate that rest, and then more gradual exercise, is necessary, in order that the heart may become by degrees equal to the work.

The skin should be kept extremely clean. During the exercise it may be exposed, but immediately afterwards, or in the intervals of exertion, it should be covered sufficiently well to prevent the least feeling of chill on the surface. Also during cold and rainy weather the body ought to be well protected, and damp places should be avoided. The clothes should be of light woollen material, and made loose-fitting, so as not to impede the circulation at any point. No braces or neckties should be worn, and the shoes should be supple and without nails.

Exercise should never be taken upon a full stomach, nor immediately after eating; for not only may serious accidents thus ensue, but at such times the activity of

the circulation ought to be concentrated on the stomach for the work of digestion. During exercise water is the only liquid to be taken. Spirits lessen the excretion of the pulmonary carbonic acid, and are therefore hurtful during exercise. The great increase of carbon excreted demands an increase of carbon to be supplied in the food. This is best given in the form of fat, a substance absolutely essential for the nutrition of muscular fibre. The quantity of nutriment must therefore be increased, especially of nitrogenous substances, fats and salts. The effects of exercise on digestion are greatly promoted, if it be taken in the open air, and it is then a most valuable remedy for certain forms of dyspepsia. Contrary to old prejudice, water is absolutely necessary for the working muscles. The proper way is to let them have it in small quantities frequently. Thus two dangers are avoided—viz., the too rapid passage of a large quantity of cold water into the stomach and blood, and the taking more than is necessary, because less is really taken in this way than if the thirst be restrained. If the water is very cold, it may be held in the mouth a minute or more before swallowing it.

As I have already said, *all* muscles, and not a single group or groups, should be brought into play; and periods of exercise must be alternated, especially in early training, with long intervals of rest. Before taking violent exercise, some gentler preparatory exercises should always precede, the object of which is to loosen, as it were, the limbs. A short foot-race is also a good introduction. The muscles, thereby warmed and relaxed, contract more readily. The duration,

alternation, and extent of the exercises ought always to be regulated by a well-trained instructor. A good instructor ought to know how to diversify the movements, to give rest to the extensor muscles, by the action of the flexors; to those of the upper parts by the exercise of the lower; in short, to know thoroughly the different capacities of the different sets of muscles. In this way he can make his pupils perform continued and severe exercises during an hour or more. He must further know how to lead on gradually the beginners and the weak from the easier to the most severe exercises.

After exercise, care should be taken not to rest in places where the temperature is too high or too low, and particularly to avoid damps and draughts. Bathing of the body with lukewarm or cold water is very beneficial. Nothing is more suitable to revive exhausted strength than cold ablution, provided that the skin be properly wiped; or, better still, rubbed with a piece of flannel in order to keep up in it a certain fluxionary state, and prevent injurious reaction. The ancients made great use of unguents and friction, which had the effect of rendering the skin supple, and promoting circulation; while the oil and dust, with which the athletes covered themselves, formed for them some kind of protective envelope against chill.

A system and period of preparation, usually termed training, and by many considered a most necessary preparation for athletic sports, is quite useless, and often injurious. Among the ancients—with the exception of the professional athletes—there was no training.

With them exercises were *continuous*, and were not alternated with periods of complete idleness. The best training is to lead a life which keeps a man ready for action at any time. Plain and regular food, without restriction to one fixed diet; temperance; systematic, continuous exercise, not pushed to excess; avoidance of tobacco, or its use in great moderation; great cleanliness, are all that is required for training.

The rules of gymnastics ought to be adapted to individual differences and to the varying conditions of life, viz.:—

(1) *To Temperament.*—The sanguine temperament requires moderate exercise, in order to avoid active congestion; the nervous temperament should be subdued and regulated in its actions by its sense of fatigue; the lymphatic temperament needs active movement at all seasons.

(2) *To Age.*—Natural gymnastics suffice for the child. Regular instruction should only begin at the age of *ten* or *twelve*. During adolescence, exercises temper precocity and regulate the respiratory functions. By means of them the man of mature age avoids obesity and undue development of the abdominal organs. They impart a new elasticity to the languishing functions of old age (though in the case of old men the condition of the heart and vessels, *as to rigidity*, should be regarded). Thus all ages are benefited by gymnastics.

(3) *To Sex.*—Gymnastics develop strength and grace in both sexes; but they must, of course, be less severe for the female. To young girls especially they offer

decided advantages. But girls and women should avoid violent shocks or concussions, especially those produced by leaping, which might even produce fatal consequences. To women especially Goethe's words may be applied: "Nur aus vollendeter Kraft spricht Anmuth hervor."

(4) *To Habit and Profession.*—With regard to the intensity and duration of exercises, gradual increase is to be observed, having regard particularly to the calling of each individual. A youth or a man with sedentary habits must proceed in a way different from that followed by the man who leads an active life. But with all, gradual and systematic increase is necessary.

There are some professions which secure more or less exercise for the body; but the daily work bears upon certain muscles only. There is neither ponderation nor equilibrium in the system of their muscular action. Many workmen exercise their muscles indeed, but in workshops and factories filled with a deleterious atmosphere. With them exercise in the open air would not only not be useless, but actually beneficial. In certain trades, the smith's for example, an extraordinary development of certain muscles is produced by the nature of his work. While his right arm is immensely increased in size, the muscles of the trunk and legs are often emaciated; and in consequence of the repetition of the same movement, and neglect of other exercises, these men are not strong in a general sense, nor healthy, and not unfrequently they become hump-backed. In callings of a higher order, among clerks and literary men, when sedentary life is not

counterbalanced by bodily exercise, a host of maladies are developed, such as apoplexies, gastralgies, visceral affections, gravel, gout, hæmorrhoids, &c. Tissot, in his work, "Sur la santé des gens de lettres," points to the pernicious influence of the stooping position on the organs of respiration, and on the circulation in the abdominal viscera. "All literary men," he says, "ought to impose upon themselves the duty of devoting every day an hour or two to exercise."

The beneficial effects of physical exercise may be shortly summed up as follows:—

(1) Sound lasting *health*, resulting from the harmonious co-operation and development of all the organs.

(2) *Strength* of all the muscles alike, not of a few, as is the case with artisans and labourers.

(3) *Dexterity*, which consists in the great flexibility and mobility of the body, ready to carry into instant execution the mandate of the will. A point of great importance in all professions, and particularly the military.

(4) *Endurance*, a consequence of the above.

(II.) *Influence of Gymnastics on the Moral and Intellectual Development.*

"If one wishes to work upon the understanding of a pupil," says Rousseau, "one must first work upon the forces which it is to rule. Exercise his body, render it healthy and strong, in order to be able to render it wise and reasonable; let him work, run, shout, be in constant motion; let him first be a man

in animal spirits, and he will soon be one also in his reason."

Cheerfulness and mirth are found only in a healthy body, and under their rule the intellectual faculties attain a quicker and more vigorous growth. With a cheerful spirit we think and judge more acutely and correctly.

Children bring cheerfulness and mirth, as a natural gift, into school, provided these have not already been suppressed by an unnatural education. At school such dispositions ought to be cultivated and encouraged by games and exercises. Long hours of intense and fatiguing study, without exercise intervening, suppress cheerfulness, and with it all pleasure in study and all disposition to apply. The school then becomes a prison; learning becomes forced labour, leading either to torpidity or to unnatural efforts. The development of the body is arrested. There is no harmony in the progress of the body and of the intellect. But add to instruction exhilarating games and exercises, as a systematic recreation after intellectual work, and there will be a different tale to tell.

From another point of view, also, instruction would be far more successful, if gymnastics were a regular branch of instruction. In gymnastics the teacher would possess an excellent means of discipline. During gymnastic exercises the attention of the pupils is kept continually on the stretch; eye and ear are intent upon the master during the common drill. This attention is, as a rule, transferred from the gymnasium to the school-room; the teacher commands tranquillity and

order, and is instantly obeyed. In such a school disorder, inattention, disobedience, and rudeness hav been found to be comparatively rare.

The object of school-life ought to be the training up of the young to *intellectual*, *moral*, and *physical* maturity. Our schools ought to counteract and extirpate one of the greatest evils of our times—viz., enervation, with its pernicious consequences. Enervation weakens will, courage, self-confidence. Under its influence the mind becomes the slave of the body. Strength and health, produced by exercise, on the contrary produce resolution, energy, courage, and firmness of character.

We read with admiration of the character, courage, and patriotism of the ancient Greeks; but we quite forget what produced these qualities. It was, to a great degree, gymnastics which nurtured among them those beautiful traits of patriotism, of self-sacrifice and devotion, which we admire. It was with confidence in the well-trained citizens of his country that Lycurgus answered the reproach of having left Sparta without walls: "The citizens of Sparta must be her walls." To recall only one modern example,—the first men who took up arms at the rising of the German nation, in 1813, were the pupils of "Father Jahn," the founder of modern gymnastics in Germany.

Gymnastics awaken a sense for the *beautiful and graceful.* Attitude and movement of the body during exercises lead to this. In the gymnasium man strives after the perfect and beautiful. Every æsthetic representation acts both on body and mind. Among the

Greeks the sense for the beautiful was chiefly aroused by gymnastics.

Emulation is another fruit of gymnastics. Emulation, in a good sense, is of no little importance for the training of energetic youth. Lucian represents Solon saying to Anacharsis: "If we were to banish from human life this love of fame, what dost thou think that we should gain thereby? Who would then have any desire to perform splendid deeds?"

Through gymnastics, moreover, *we improve our social life, and widen the circle of worthy occupations.* Popular festivals, of a character far different from horse-races and the like, would soon follow the general introduction of gymnastics into school and social life, and would contribute no little to raise the tone and manners of society.

Dr. Werner, a German author, illustrates the influence of gymnastics on the moral and intellectual development in the following succession of causes and effects:—

Health of the body . .	Cheerfulness of mind.
Hardening of the body .	Manliness of mind.
Strength and skill . . .	Presence of mind, courage.
Activity of body . . .	Activity of mind.
Fine development of body	Beauty of soul.
Acuteness of the senses .	Strength of the thinking faculty.

(III.) *Influence of Gymnastics on Professional Ability.*

Love of work, and skill in work, are the fruits of a good physical and intellectual education. Where there

are active and industrious citizens, prosperity exists. This love of work ought to be awakened early at school. The youth of the lower classes, rendered active, industrious, and skilful in the gymnasium connected with the school, would be far different from what it is now. There would be fewer idlers, fewer claiming the support of their fellow-men.

With regard to health, I have said enough already. We know not only that gymnastics are a preventive against diseases, but that they are also effectual to cure many of them. Why not devote at least the same care and attention to the gymnasium, as to the hospital? Is it not better, and cheaper also, to fill the former than the latter?

Military preparatory exercises in the gymnasium, under able direction, would be useful, not only from a pedagogical, but also from a technical and economical point of view. They would serve as an initiatory military training, and would render the soldier and volunteer more able and apt for his profession.

IV.

PROMOTION OF PHYSICAL EDUCATION.

The greatest impediment in the way of a general introduction of gymnastics is the assumption that they are both useless and dangerous. Useless in schools in which games, such as cricket, &c., are general; dangerous on account of the accidents to which gymnasts are exposed.

I have described the effects of gymnastics. There is scarcely a muscle in the body which cannot be exercised and strengthened by means of them. Their effects on the body are general and thorough. This is not the case with games. Excellent as the latter are, they are not sufficient to develop systematically the whole muscular system. They are excellent as supplementing gymnastics, but can never stand in their stead. They could never be attached to the school as gymnastics may be; for whilst it would be an easy thing to provide for even the lowest class of school a covered gymnasium in which hundreds of children might together or in detachments go through their exercises, the establishment of a playground large enough in *every* school in the country, and the *daily* practice *all the year round and in all weathers* of games of *all* the children of each school during a limited time, would be an utter impossibility. Thus games are, and will always be, an ex-

cellent pastime for the well-to-do classes, practised, not regularly and daily, but at intervals; but they can never be a substitute for gymnastics.

The domain of gymnastics is very wide. They are not limited only, as is sometimes imagined, to such instruments as the horizontal bar, parallel bars, &c. They comprise marching, foot-races, or running in rank and file, leaping, lifting and throwing of weights, dragging and carrying of loads, throwing lances and javelins, climbing poles, ladders, and ropes, horse exercises, wrestling, and many other feats, all admirably adapted to the physical development of every part of the body.

These exercises are not practised at random. In a well-conducted gymnasium they are systematically selected, succeeding each other methodically, proceeding gradually from the easy to the difficult, like *any form of mental training*. Thus the danger of overtaxing the strength of the individual is avoided. The gymnasts are classified according to their physical strength and ability. A pause follows each exercise; while violent exertions are not followed immediately by absolute rest, but by gentler ones by way of transition. Foolhardy youths are restrained from dangerous efforts. In a well-directed gymnasium every squad is under the direction of a leader, who superintends all the exercises, watches every individual, and, with the aid of an efficient assistant, during his practice on any instrument, helps and protects him. This assistance, and the proper method of protecting the individual practising, is in itself an important branch of gymnastic training. And

although I have in former years regularly attended crowded gymnasia, I have in only one instance witnessed any accident, and this was owing to the gymnast's breaking the rules of the gymnasium by practising alone. I repeat, if there is a regular superintendence, and the instruments are good and well looked after, accidents are almost impossible, and certainly less frequent than on the cricket and football field.

But I must strongly protest against the notion that a master can be dispensed with in the practice of gymnastics. It is carelessness in this particular which is dangerous; which, by allowing unsystematic exercises, injures health, causes accidents, and raises prejudice against all gymnastics. In my opinion, every gymnasium ought to be closed in the absence of the master. The gymnasium is, moreover, not to be allowed to be a sporting place for the unrestrained gambols of youth; it should, on the contrary, be a place of the strictest discipline, where obedience, order, and systematic work prevail. It is to be a place where youth is not only physically trained, but also morally and mentally. Many of the exercises require, indeed, strict attention and quick decision. If a gymnasium is managed in such a manner, all prejudices will soon and entirely vanish. Each gymnasium ought, moreover, if practicable, to be under the superintendence of a medical man, who should examine every individual with special regard to his heart and general condition of health. With proper care gymnastics, whilst beneficial to all, will be injurious to none.

The men who can do most for the promotion of

physical education are the *medical men* and *teachers*. The medical man knows the influence of exercise on the human organism; his duty is not only to heal, but to prevent illness. The teacher should know that a sound physical education has the most beneficial effect on intellectual and moral education. The teacher's duty is the training of youth, not only of his mind, but also of his body. As a rule, this branch of education has been greatly neglected. Many see its usefulness, but are unable to avail themselves of it, while others look upon it as a new burden to their already hard lot. But these latter should know that gymnastics would not be a new burden. On the contrary, they would act as a relief to their exhausting duties, and, at the same time, be an excellent means of promoting discipline. But here I must add, that in primary, and even in secondary schools, gymnastics should be taught also by teachers of the regular staff, who have had a thorough general education. In German schools many a teacher superintends the classical studies, history, or any other branch, and also gymnastics. This would raise in this country the character of the teacher of gymnastics, and through it the importance of this branch of education; and would greatly facilitate the general introduction of gymnastics into all schools.

A great means to popularise gymnastics are public gymnastic festivals. These have done much to promote gymnastics in Germany and Switzerland. Through them the people see and judge them. These festivals may be of two kinds. Local festivals of each society, school, or club—all in public; or festivals of associated

clubs or schools. In the case of the latter, the place of meeting ought regularly to be changed, so as to enable every part of the country to witness them.

The establishment of a National Association would unite individual efforts, and produce a common united action. Such an association would admit as members representatives of all classes and professions. It would be directed by a managing board. This board, composed of eminent men and women of various vocations, especially teachers and medical men, would establish local boards in various districts and towns, which would act in harmony with it, and again constitute provincial sections. It would, further, put itself in communication with the school boards and school committees.

The managing board would establish three kinds of gymnastic meetings—local, provincial, and national—all of which would be public, and have the character of public festivals. The local and provincial meetings might be annual; the national, biennial. The locality both of the provincial and national meetings should be regularly changed. These meetings should be for gymnasts of all grades. At the national meetings the better gymnasts only of the local societies should take part in the exercises.

The Central Committee ought always to be well informed of the doings of its various branches, and to keep up regular communication with the provincial boards, and these again with the local boards. The provincial exercises at meetings should be directed by experts selected respectively by the central or provincial board.

Gymnastics have hitherto been looked upon, both by the public and the teachers, as among the non-essentials of education. The real advancement of gymnastics greatly depends upon their general introduction into schools. Every school board and committee ought, therefore, to make them obligatory, both in primary and secondary schools. It is true that the want of teachers of gymnastics would be a great impediment to the immediate carrying out of such a regulation. It might, however, be made to come into operation gradually. In large towns it could be done at once.

But, in order to make gymnastics a regular branch of education, there is needed the hearty co-operation of the teacher. It is the teacher who must learn to appreciate gymnastics, and it is the teacher again who is the proper person to teach them. He who believes that a teacher needs only muscular strength and skill to be able to do this, does not understand the great pedagogical value of gymnastics. The duties of a teacher of gymnastics require not only bodily, but also mental ability. He ought to be able to teach the subject as a department of intellectual as well as of bodily training. Instruction in gymnastics should, therefore, always be given, or at least directed, by a man with a thoroughly pedagogical education. All teachers ought, if possible, to be able to teach gymnastics.

But how are they to learn it? By the establishing of gymnasia in all the training colleges, and of special training gymnasia for teachers in all large towns. Such a plan could be best carried out by a National Association. The chief instructors in such training gymnasia

ought to be men with a thorough general education—men who have studied anatomy, physiology, and hygiene. They must be able to adapt their teaching according to age and sex, and to regulate it according to anatomical and physiological laws. Lectures on anatomy and physiology, specially adapted to gymnastic exercises, should be given in such training gymnasia, by well-qualified medical men.

The above remarks apply to female as well as to male teachers. Gymnastics for girls and women would be better taught by female teachers. The latter would, moreover, be better able to remove the prejudices or objections of mothers.

In universities gymnastics should be taught most completely, both theoretically and practically, with lectures on the various branches of the art, and on their physical effects.

Thus, we should have gymnasia in every primary and secondary school and university; and, besides, a National Association, the object of which would be to form gymnastic clubs in every part of the country, and to watch and control physical education in general.

A great difficulty in the way of the introduction of gymnastics is the want of spacious open places in the vicinity of school-houses. The school boards and committees should therefore decree that in connexion with every school-house, whether for girls or boys, there should be an open place, offering plenty of space for the setting up of gymnastic apparatus, and for games; and not open places only, but also halls, that the

exercises might not be interrupted in winter or bad weather.

One large gymnasium in a small town might suffice for the schools and clubs of the neighbourhood; and in case of need, a large school-room might be used in addition for certain exercises.

At school inspections equal attention should be paid to gymnastics with other branches of education, and that not separately nor by special inspectors. At school examinations, again, gymnastics should take an equal place, and marks be awarded for them, as is the case in the Royal Military Academy at Woolwich. Teachers wishing to obtain diplomas should be required to pass an examination in the theory and, if possible, in the practice of gymnastics. The most important step towards a general introduction of gymnastics is to obtain a good class of teachers of them, who have been thoroughly educated, not only physically, but also mentally.

Is it Utopian to hope that what has once been might be again—namely, that public gymnasia might, in the course of time, become the places where all classes congregate; where popular lectures are listened to; where artists, especially sculptors, not only exhibit their works, but make their studies, like their great predecessors among the Greeks? Where could they find better models? Thus, the public gymnasium might be the most effective means for training up youth to common political action, and for extinguishing the spirit of caste. Gymnastics and music are, in Plato's State, the means of education. Thus the ancient philosopher proposed to unite sternness and softness, to

strengthen both mind and body, and to render both susceptible of harmony. It would seem, then, that the consciousness of this symmetrical human culture is the crowning piece of Philosophy. In Germany many gymnastic and singing clubs have joined hands, and thus entered upon the path which the greatest thinker of antiquity has indicated as the only one leading to happiness. What a blessing a similar union would be to thousands in this country, especially in the manufacturing towns, where work, work, work, is the lifelong fate of most, without any elevating, cheering pause.

THE END.

PRINTED BY BALLANTYNE AND HANSON
LONDON AND EDINBURGH